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ABSTRACT

This annotated bibliography summarizes approximately 600 reports of reading research identified between July 1, 1990, and June 30, 1991. The research studies described in the book are categorized into six areas: (1) summaries of reading research; (2) teacher preparation and practice; (3) sociology of reading; (4) physiology and psychology of reading; (5) the teaching of reading; and (6) reading of atypical learners. Studies in the book are subcategorized under five of the six main categories (category 1 is the exception since it consists of general reviews only), and within any one subcategory appear a number of loosely related studies. The majority of studies reported are in the physiology and psychology of reading area and the largest subdivisions within that category are (as in the past), Comprehension Research and Factors Related to Reading Disability. A list of journals monitored and an author index conclude the document. (RS)

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ANNUAL

Summary of Investigations Relating to Reading

July 1, 1990
to
June 30, 1991

Sam Weintraub
Editor

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Annual Summary of Investigations Relating to Reading

July 1, 1990 to June 30, 1991

Sam Weintraub
State University of New York at Buffalo
Editor

INTERNATIONAL READING ASSOCIATION
800 Barksdale Road, PO Box 8139
Newark, Delaware 19714, USA

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Abbreviations Used in the Annual Summary, 1990-1991

Abbreviations have been used with certain terms and test names that appear frequently in reading research reports. The terms, test names, and abbreviations employed are listed below.

TERMS

ANCOVA	Analysis of Covariance
ANOVA	Analysis of Variance
CA	Chronological Age
CAI	Computer Assisted Instruction
CRT	Cathode Ray Tube
DRA	Directed Reading Activity
DRTA	Directed Reading-Thinking Activity
EH	Emotionally Handicapped
EMR	Educable Mentally Retarded
ESL	English as a Second Language
GPA	Grade Point Average
IQ	Intelligence Quotient
LD	Learning Disabled
LVF	Left Visual Field
MA	Mental Age
MANOVA	Multivariate Analysis of Variance
RA	Reading Age
RD	Reading Disabled
RT	Reaction Time
RVF	Right Visual Field
SES	Socioeconomic Status
VF	Visual Field

TESTS

ACT	American College Test
CAT	California Achievement Test
CTBS	Comprehensive Tests of Basic Skills
DRP	Degrees of Reading Power
GMRT	Gates-MacGinitie Reading Tests
GORT	Gray Oral Reading Test
IRI	Informal Reading Inventory
ITBS	Iowa Test of Basic Skills
ITPA	Illinois Test of Psycholinguistic Abilities
MAT	Metropolitan Achievement Tests
MRT	Metropolitan Readiness Test
NARA	Neale Analysis of Reading Abilities
NDRT	Nelson-Denny Reading Test
PIAT	Peabody Individual Achievement Test
PMAT	Primary Mental Abilities Test
PPVT	Peabody Picture Vocabulary Test
RMI	Reading Miscue Inventory
RPM	Raven's Progressive Matrices
SAT	Stanford Achievement Tests

Schonell	Schonell Graded Word Reading Test
SDRT	Stanford Diagnostic Reading Test
SIT	Slosson Intelligence Test
Spache DRS	Spache Diagnostic Reading Scales
SRA	SRA Achievement Series
TORC	Test of Reading Comprehension
WAIS-R	Wechsler Adult Intelligence Scale – Revised
WISC-R	Wechsler Intelligence Scale for Children – Revised
WJPEB	Woodcock-Johnson Psycho-Educational Battery
WPPSI	Wechsler Preschool and Primary Scale of Intelligence
WRAT	Wide Range Achievement Test
WRMT	Woodcock Reading Mastery Test

A microfiche edition of this *Annual Summary of Investigations Relating to Reading* is available. Annotated citations are provided in author and subject sequences on eye-readable, 4 x 6 cards; the full-text documents are reproduced on 4 x 6 high-quality microfiche which utilizes an exclusive image indexer. Printed author and subject indexes are included, and a demonstration workshop is available to train staff and students in the use of the collection. For further information about the microfiche edition of this *Annual Summary* or any previous *Summary*, contact the Alvina Treut Burrows Institute, PO Box 49, Manhasset, NY 11030. Phone 516-869-8457.

Contributing Authors

SAM WEINTRAUB is a professor in the Faculty of Educational Studies, State University of New York at Buffalo. He has served on the faculties of several universities including the University of Chicago and Indiana University. Dr. Weintraub can be contacted at 593 Baldy Hall, SUNY at Buffalo, Amherst, NY 14260.

HELEN K. SMITH is professor emeritus at the University of Miami at Coral Gables. She has served on the faculties of the University of Chicago, where she directed the Reading Clinic, and the University of Illinois at Chicago Circle. She has served on IRA's Board of Directors and is a member of the Reading Hall of Fame. Dr. Smith can be contacted at Box 236, Heyworth, IL 61745.

NANCY L. ROSER is a professor of curriculum and instruction at the University of Texas at Austin. She teaches courses in reading methods and in recent research on reading and is the author of numerous articles and texts. Dr. Roser can be contacted at the College of Education, Department of Curriculum and Instruction, Education Building 406, University of Texas, Austin, TX 78712.

WALTER J. MOORE is professor emeritus at the University of Illinois at Urbana-Champaign. He has taught in the Laboratory School at the University of Chicago where he also served as the research assistant on the annual summary under William S. Gray. Dr. Moore can be contacted at the College of Education, University of Illinois at Urbana-Champaign, Urbana, IL 61801.

KATHLEEN S. JONGSMA is the Reading Supervisor, K-12, for the Northside Independent School District in San Antonio, Texas, where she works with 54 elementary, middle, and secondary schools and 17 programs serving special school populations. She has served on the faculties of several universities including Texas Woman's University and the University of Texas at San Antonio. Dr. Jongsma can be contacted at the Northside Independent School District, 5900 Evers Road, San Antonio, TX 78238.

MARY ANNE E. DOYLE is an Associate Professor of Education and Director of the Reading-Language Arts Center at the University of Connecticut. She teaches courses in developmental reading, diagnosis and remedial reading, and reading research. She can be contacted at the School of Education, Box U-33, 249 Glenbrook Road, University of Connecticut, Storrs, CT 06268.

MARIA A. CEPRANO is Chair of the Department of Elementary and Secondary Education at St. Bonaventure University. She teaches graduate courses related to reading diagnosis and remediation and language arts. Her present research focus is adult literacy instruction and workplace literacy programs. Dr. Ceprano can be contacted at the School of Education, Saint Bonaventure University, Saint Bonaventure, NY 14778.

DIANE M. GRAHAM is an Assistant Professor of Education at Eastern Montana College. She teaches undergraduate and graduate courses in content area reading and writing. Her research interests include secondary remedial reading, factors related to reading affect, and the integration of reading and special education. She can be contacted at the Department of Special Education and Reading, Eastern Montana College, 1500 N. 30 Street, Billings, MT 59101.

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*Annual Summary of Investigations Relating to Reading July 1, 1990 to June 30, 1991**

SUMMARIZES reports of reading research identified between July 1, 1990 and June 30, 1991. The research studies are categorized into six major areas, five of which have been further subcategorized. As in previous years, the majority of studies reported were classified into the Physiology and Psychology of Reading area. The largest subdivisions within that category continue to be Comprehension Research and Factors Related to Reading Disability. The largest subcategory in the Sociology of Reading is concerned with the content analysis of printed materials. A listing of other general bibliographies of reading research appears as the first major category of the present summary.

Order of Studies Within Subcategories

STUDIES in the Annual Summary are subcategorized under five of the six major categories (Category 1 consists of general reviews only and is not subcategorized). A number of loosely related studies will appear within any one subcategory. While all the research within one category falls under the same general rubric, the studies will vary markedly in emphasis, in the question being addressed, and/or in the focus. Thus, studies have been grouped within subcategories also. For example, under Factors Related to Reading Disability, those studies that address dyslexia appear together, while those that deal with strategies used by good and by poor readers would be placed in juxtaposition. The reader looking for research on one particular aspect of reading disabilities would then find them all in one spot rather than dispersed haphazardly throughout the subcategory as might be the case if they were listed alphabetically by author.

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*Materials for inclusion were identified by two individuals: Diane Graham, a former doctoral student at SUNY at Buffalo, and James Schwartz, the current doctoral assistant. Both have been most conscientious and competent in their efforts. Margaret Collins is the efficient secretary who keeps track of all the summary materials and reminds me that it's time to get things done. To those individuals, I am deeply indebted. In addition, thanks are due to our responsible, industrious work-study student, Li Ping Mei. Primary financial support of the annual summary is provided by the International Reading Association. Supplementary funding is supplied by the Alvina Treut Burrows Institute.

I. Summaries of reading research

DURST, RUSSEL K., & MARSHALL, JAMES D. (1990, December). Annotated bibliography of research in the teaching of English. *Research in the Teaching of English, 24,* 441-457.

Cites and annotates research in the teaching of English under four main headings: Writing, Language, Literature, and Teacher Education. Additional subheadings appear under the first two categories. The bibliography was prepared in cooperation with the ERIC Clearinghouse on Reading and Communication Skills and includes dissertation abstracts, journal articles, and ERIC documents.

MARSHALL, JAMES D., & DURST, RUSSEL K. (1991, May). Annotated bibliography of research in the teaching of English. *Research in the Teaching of English, 25,* 236-253.

Continues the compilation of an annotated bibliography of research in the teaching of English. Entries for the most part are from 1989 and 1990. Materials fall into the same four major categories noted in the preceding abstract. Subcategories under writing include: Contexts, Instruction, Processes, Text Analysis, Assessment, Rhetoric, and Writing and Learning. Subcategories under Language are: Processing, Development, Interrelationships, and Language and Schooling.

RABAN, BRIDIE. (1990, November). Reading Research in Great Britain in 1988. *Reading, 24,* 107-127.

Abstracts research published in Great Britain in 1988. Studies are categorized under eight major subheadings: Word Recognition, Dyslexia, Blind and Deaf Readers, Writing, Language and Literacy, Cohesion and Comprehension, Parents, and Teaching Methods. Includes approximately 65 entries.

WEINTRAUB, SAM; SMITH, HELEN K.; MOORE, WALTER J.; JONGSMA, KATHLEEN S.; JONGSMA, EUGENE A.; DOYLE, MARY ANNE E.; CEPRANO, MARIA A.; & GRAHAM, DIANE M. (1991). In Sam Weintraub (Ed.), *Summary of investigations relating to reading, July 1, 1989 to June 30, 1990.* Newark, DE: International Reading Association.

Categorizes and abstracts reports of reading research identified in the period from July 1, 1989, to June 30, 1990. The literature is categorized under six main categories and further subcategorized under five of the six major categories.

II. Teacher preparation and practice

II-1 Behavior, performance, knowledge, practices, effectiveness

RUDDELL, ROBERT B.; DRAHEIM, MARILYN E.; & BARNES, JUDITH. (1990). A comparative study of the teaching effectiveness of influential and noninfluential teachers and reading comprehension development. In Jerry Zutell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 153-162). Chicago, IL: National Reading Conference.

Hypothesizes that the classrooms of influential teachers would be characterized by higher levels of student engagement; a more precise use of setting, achieving, and monitoring student goals; and higher reading achievement. Student (n=132) and teacher (n=8) samples for this study were selected from an extensive database collected as part of a larger research project studying the effects of inservice training in primary grade schools. The project used extensive videotaping of 24 teachers, and standardized tests were administered to 522 pupils (K-3). Eight years after this project, 132 students of the original set were still enrolled in the school district. These students were asked to identify a teacher who had influenced their academic career. Four influential teachers were identified by 2 or more students, and 4 other teachers were randomly selected to represent noninfluential instructors. Each teacher was videotaped during a reading lesson that used children's literature to develop comprehension skills. The Classroom Interaction's Patterns Scale and a holistic analysis of the effective use of Knowledge Control components were used to analyze the videotapes. Student achievement was assessed by the Metropolitan Readiness Test (K-1) and the ETS Co-Operative Primary Battery (2-3). Significant differences were found favoring influential teachers on each of the five variables of interaction: classroom communication, view of self, management style, problem solution to learning, and teaching effectiveness. Influential teachers appeared to be able to identify and select objectives geared toward developing indepth understanding of the reading selection, while noninfluential teachers focused on literal meanings. Reading achievement gains were found in favor of the influential teacher classrooms for grades 2 and 3.

GALLAGHER, MARGARET C.; GOUDVIS, ANNE; & PEARSON, P. DAVID. (1988). Principles of organizational change. In S. Jay Samuels & P. David Pearson (Eds.), *Changing school reading programs: Principles and case studies* (pp. 11-39). Newark, DE: International Reading Association.

Discusses how changes and innovations replace or modify existing views and practices. Included in the chapter is a section on attempts to produce change, including a review of the research in this area. Such attempts in reading are approached from three perspectives: historical evidence, evaluations of large-scale change efforts, and professional development and teacher change. Among the conclusions stated is that successful change can occur as a result of either directed development or mutual adaptation, but two key elements must be present—ownership and knowledge.

ROEHLER, LAURA R.; DUFFY, GERALD G.; & WARREN, SCOTT. (1988). Adaptive explanatory actions associated with effective teaching of reading strategies. In John E. Readence & R. Scott Baldwin (Eds.), *Dialogues in literacy research* (pp. 339-345). Chicago, IL: National Reading Conference.

Observes the explanatory behaviors of eight third grade teachers considered more or less effective to describe the nature of the explications. The study is a follow-up analysis of teachers from the treatment group who were instructed in explicit explanations as part of an earlier study. For each teacher, seven lessons were observed, recorded, and analyzed for instances of spontaneous instructional statements made during the lesson in response to unanticipated events (adaptive instructional actions). Adaptive explanatory actions were observed for both groups of teachers but were noted more often for teachers considered effective. Findings suggest that explanations are adaptive rather than procedural and that effective teachers extend understandings beyond the boundaries of specific lesson objectives.

CONLEY, MARK W., & WARREN, SCOTT. (1988). The development of teacher explanations during content reading lessons. In John E. Readence & R. Scott Baldwin (Eds.), *Dialogues in literacy research* (pp. 259-266). Chicago, IL: National Reading Conference.

Describes whether teachers participating in staff development in content reading would develop explanations that encourage student applications. Participants were six middle school English teachers considered novice (n=3) or experienced (n=3) in teaching content reading. For the first year, both groups participated in monthly workshops designed to help teachers create and implement lesson materials. For experienced teachers, the second year focused on refining these skills and the third year was devoted to problem solving. Specific instruction in how to explain reading strategies was not part of the training for either group. For the study, single intact classrooms were identified, where one content reading strategy was used (three-level guides). Observations of three lessons for each classroom were coded for instances of explanations. Data support the conclusion that experienced and novice teachers do not differ considerably in explanatory behaviors. Both groups emphasized explanations dealing with content but rarely attempted verifying student understanding of the process. Explanations focused on comprehension of the immediate lesson but did not attend to ways of applying reading beyond that.

O'FLAHAVAN, JOHN F., & MCDONELL, GLORIA M. (1990). Becoming a strategic reader in Virginia: Is practice keeping pace with research? *Reading in Virginia, 15,* 1-9.

Examines whether Virginia teachers' instructional reading practices are keeping pace with current research-based views on reading instruction. Approximately 200 surveys were mailed to all regions within the state with a 43.5% return rate. Teachers were asked to complete the survey of common practices and beliefs related to reading instruction and to identify how frequently they used each practice. Compilation of the data indicated that Virginia's reading instructional profile is multidimensional. The instructional milieu was characterized by a variety of grouping practices, including a large preference for ability grouping and/or some use of interest grouping, content area grouping, or one-to-one instruction. Materials used for reading instruction included basal readers and attendant supplemental literature (used by 64% of the teachers in varying degrees), texts from a variety of publishers, as well as student generated materials. Prereading practices employed by most teachers involved purpose setting or prior knowledge activation. During-reading practices most commonly included silent reading, although 90% of the teachers reported using some form of oral reading in their program. Postreading practices included a prevalent use of workbooks and ditto activities followed by written book reports and, in rare instances, computer software.

ALVERMANN, DONNA E., & HINCHMAN, KATHLEEN A. (1991). Science teachers' use of texts: Three case studies. In Carole Minnick Santa & Donna E. Alvermann (Eds.), *Science learning: Processes and applications* (pp. 86-93). Newark, DE: International Reading Association.

Explores the assumptions that science teachers make about content textbooks and how these assumptions influence classroom practice. The case studies were drawn from a larger yearlong study and focused on three experienced secondary science teachers considered effective by school colleagues. Field notes from classroom observations, videotapes, interview transcripts, and classroom documents provided the case study data. Teacher A's use of text as the primary source of content reflected a product-oriented approach. The process-oriented approach used by Teacher B resulted in a limited use of the text, implying that learning is acquired through experience rather than through printed materials. Teacher C used a combination of product and process orientations. Students were involved in applying science and reading skills but viewed the text as a viable source of learning new information.

KONOPAK, BONNIE; COTHERN, NANCY; JAMPOLE, ELLEN; MITCHELL, MARY; DEAN, RITA; HOLOMAN, LENNIE; EVERETT, MARY; WEEMS, NANCY; & ARCENEAUX, LESLIE. (1990). Reading instruction in science at the transitional grades: Beliefs versus practice. In Jerry Zutell & Sandra McCormick (Eds.), *Liter-*

acy theory and research: Analyses from multiple paradigms (pp. 129-136). Chicago, IL: National Reading Conference.

Examines how reading is considered and used by two fifth and two sixth grade science teachers in their classrooms. Teacher interviews were conducted before and after five consecutive classroom observations. Teachers were asked about their beliefs and practices concerning reading and science learning and about the observed lesson purpose, class organization, instructional materials, activities, and methods of evaluation. Although reading was considered important to the internalization of subject content, reading instruction was observed in isolation with skills. Lesson purposes were both explicit and implicit, and dictated whole class grouping. The materials used were predominantly textbooks and worksheets, although grade 5 used manipulatives as well. Lectures and individual seatwork were the dominant activities noted and evaluation was accomplished through worksheets, observation, and projects.

HOFFMAN, JAMES V.; ROSER, NANCY L.; BATTLE, JENNIFER; FAREST, CINDY; & ISAACS, MARY ELLEN. (1990). Teachers' developing insights about the use of children's literature for language and literacy growth. In Jerry Zutell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 89-98). Chicago, IL: National Reading Conference.

Gleans insights into the development of teachers' learning and the learning of their students while incorporating children's literature into existing reading programs. Included were kindergarten, first, and second grade teachers (n=78) from six elementary schools in a large southwestern school district. Data were collected as part of a larger study designed to incorporate literature into reading/language arts programs. Data used in this study consisted of teacher interviews (during and at the end of the project), classroom observations, and grade level team meetings. Teachers reported and were observed successfully implementing literature into classroom instruction. While certain activities appeared to be unaffected by the introduction of literature (e.g., spelling), other activities showed marked increases (writing, use of journals) or decreases (workbook, vocabulary, phonics). Predominant concerns from teachers focused on task considerations such as time. Teachers reported that the development of their own learning focused on legitimizing read-aloud time, learning about children's books, sharing ideas, and enjoying teaching. Student improvements were noted in listening skills, increased motivation, comprehension, broadened concepts, and a more interactive classroom.

MARTINEZ, MIRIAM G., & TEALE, WILLIAM H. (1989, Spring). Classroom storybook reading: The creation of texts and learning opportunities. *Theory into Practice, 28*, 127-135.

Analyzes the storybook reading styles of three kindergarten teachers who read four narrative stories to their classes. The analyses involved attention to the focus of the teacher's talk during the storybook reading experience, the type of information the teacher encouraged children to deal with during the storybook reading, and the teacher's use of instructional strategies to organize and manage interactions. Practices of the three teachers were described with specific references to their readings of one text. The descriptions exemplified specific differences among the three teachers, and the authors concluded that the teachers had divergent storybook reading styles. The consistency of their unique styles was confirmed by considering their performance reading three additional books. Each teacher was found to be consistent in the way she read stories aloud, despite differences in content among the books. Having observed consistency, researchers suggest the need to question the effects of storybook reading styles on children's literacy development. Rather than consider that one style may be superior to another, it was suggested that teachers with different styles may move children along somewhat different paths in their literacy development.

BACHARACH, NANCY. (1990-1991, Winter). Promoting independent readers: A study of classroom practices. *Journal of Reading Education, 16,* 26-32.

Ascertains some current classroom practices fostering independent reading. A five-item questionnaire was distributed to 200 teachers of grades K-6 in one school district. Additionally, student teachers and field experienced students were selected randomly for interviews to check on the accuracy of the self-report data. Of the 146 questionnaires returned, 95% of respondents checked that they read aloud to their pupils, with 73% stating that they did so daily. Daily time for sustained silent reading was provided by 38% of the teachers replying, and 96% reported that they had classroom libraries. The most frequently reported incentive for encouraging reading was to permit pupils to read when other work was completed. Other incentives reported included having children read aloud to other children, having pupils write, having read-ins, and offering book clubs.

PADAK, NANCY D., & NELSON, OLGA G. (1990). Becoming a teacher of literacy: Novice whole language teachers in conventional instructional environments. In Jerry Zutell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 99-107). Chicago, IL: National Reading Conference.

Presents two case studies illustrating concerns of prospective whole language (WL) teachers about literacy instruction and ways in which they solve problems encountered during instruction. Two undergraduate elementary education majors who were well acquainted with WL principles completed four 8-week field experiences as part of a collaborative teacher education project. The first two experiences involved observing and assisting in classrooms three days a week. The second two experiences constituted full-time student teaching. Data were collected from written journals, interviews at the end of the semester, and interviews following observed literacy instruction. The process of development for the two students involved weighing the value of what they had learned in their methods courses against cooperating teachers' beliefs and practices. Concerns or problems arose as each student attempted to mediate differences between what they believed or had learned and what they were asked to do. The types of instructional materials available during the experiences and communication between the participating student and the cooperating teacher are discussed as contextual influences as well.

PLATT, JENNIFER M., & WILLIAMS, KARRI. (1988). Preservice and inservice teachers' reading comprehension skills and their metacognitive awareness of processing of text. In Donovan Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.), *The dilemmas of teaching reading* (pp. 77-80). Muncie, IN: Ball State University.

Assesses preservice and inservice teachers' comprehension skills and metacognitive awareness of the strategies they use to process text. Participants included 25 graduate students enrolled in a graduate reading course and 19 undergraduates enrolled in a preservice reading methods class. Subjects performed two tasks as a pre- and posttest. One task required participants to read a 200-word twelfth grade level passage and then, with the passage removed, to answer ten questions based on it. In addition, they were asked to write how they had determined their answers. For the second task, subjects read a different passage but were allowed to refer to the text while answering the questions. In the interim between the pre- and posttest, subjects received instruction on literal and inferential comprehension and how the reader's task differs for each. Significant increases were found for both groups from pre- to posttest in both number of correct responses and increased awareness.

TELFER, RICHARD J., & JENNINGS, ROBERT T. (1988). Prospective teachers' recollections of high school content area instruction. In Donovan Lumpkin, Mary

Harshbarger, Peggy Ransom, & Joan Williams (Eds.), *The dilemmas of teaching reading* (pp. 91-102). Muncie, IN: Ball State University.

Examines content area reading instruction from the perspective of preservice teachers. Two groups of students (Ns not reported) were surveyed with a three-part instrument. One group of students was enrolled in undergraduate educational psychology courses at two universities and had not taken a reading class; the second group was enrolled in content reading methods classes. The instrument contained one 22-item section asking students about their recollections of their own high school content-area instruction. A second portion of the survey consisted of 15 multiple-choice items asking about perceptions of the reading process; the third segment consisted of 15 items assessing attitude toward content reading instruction. Students recollected their content teachers as regularly using one textbook, sometimes supplemented with printed materials. They recalled teachers as being more likely to work with large groups than small groups and as being less likely to aid students in identifying a purpose or in previewing concepts than to present information, clarify concepts, or evaluate students' understanding. Recollections of students who were taking the content reading course were more negative relative to their high school reading instruction than were recollections of those who had not taken a reading methods class.

WEBER, ROSE-MARIE, & SHAKE, MARY C. (1988, December). Teachers' rejoinders to students' responses in reading lessons. *Journal of Reading Behavior, 20*, 285-299.

Examines the types of reacting moves and evaluations (rejoinders) teachers give to pupils' responses in the questioning phase of comprehension lessons. Data for analysis emerged from videotape transcriptions of 37 lessons given to small groups of second graders of low, average, or high ability by six second-grade teachers over a semester. Teachers' verbal responses to children's answers before asking another question were placed in one of eight ad hoc categories: no verbal response, explicit evaluation, repetition of the pupil's answer, elaboration of the pupil's answer, and a combination of the latter three. The relative frequency of each type of rejoinder indicated the dominance of the null rejoinder followed by rejoinders involving repetition. The dominant rejoinder type varied across teachers. However, the frequencies of teacher response types across ability groups did not vary significantly.

ALVERMANN, DONNA E.; O'BRIEN, DAVID G.; & DILLON, DEBORAH R. (1990, Fall). What teachers do when they say they're having discussions of content area reading assignments: A qualitative analysis. *Reading Research Quarterly, 25*, 296-322.

Attempts to characterize middle school teachers' class discussions of a variety of assigned content area readings. Subjects were 24 volunteer middle school teachers in four school districts in the southeastern United States. Data collected over a period of two semesters consisted of observations of teachers conducting discussions of content area reading assignments, teachers' definitions and descriptions of a good discussion, and structured interviews of five teachers as they watched videotapes of their own discussions. Data were submitted to a constant comparative method as well as macro- and microanalytic techniques. Discussions ranged on a continuum from lecture/recitation to recitation to open forum, with most interactions being in the former two categories. Type of discussion was influenced by teacher purpose, belief, and knowledge; lecture/recitation or recitation types stemmed from lessons designed to elicit information, provide for test review, or acquire definitions, while open forums stemmed from lessons aimed at facilitating comprehension. Materials selected for instruction influenced types of discussion; worksheets and textbooks correlated with lecture/recitation and recitation, while videotapes, films, and notes correlated with open forums. Individual discussions seldom reflected corresponding teachers' definitions of a good discussion. Maintenance of control and concern for covering content appeared to discourage teacher solicitation of pupils' active participation.

SHAKE, MARY C.; ALLINGTON, RICHARD L.; GASKINS, ROB; & MARR, MARY BETH. (1989, September/October). How remedial teachers teach vocabulary. *Remedial and Special Education, 10*, 50-57.

Analyzes the written rationales for selecting vocabulary words and teaching strategies and the audiotape transcriptions of vocabulary lessons of 20 experienced teachers. The teachers were enrolled as graduate students in a clinical reading course at two universities to determine the number of lesson statements relating to word recognition and conceptual development (definition, semantic feature, or contextual usage). Conceptual development statements were present in over half (62%) of the lessons. Most teacher and pupil statements were definitions, followed by statements of contextual usage, and semantic features. Most teachers also made statements related to word recognition (37.6%). There were some mismatches between teachers' tasks and pupils' responses. Lessons provided few opportunities for pupils to acquire other than surface understandings of words.

ZANCANELLA, DON. (1991, February). Teachers reading/readers teaching: Five teachers' personal approaches to literature and their teaching of literature. *Research in the Teaching of English, 25*, 5-32.

Presents a qualitative study of the connections and conflicts between five junior high school English teachers' personal approaches to reading literature and their teaching of literature. Data collecting included eight interviews of about 50 minutes each, nonparticipant observations of literature classes, written reactions by the teachers in response to works of literature, artifact collection, and interviews with students. Analysis was done by means of analytic induction and constant comparison, and a detailed case study of each subject was prepared. Comparisons were made across the cases. In general, the conflicts between the in-school and out-of-school parts of the teachers' literary lives dominated the data. Their personal approaches to literature and how and why they themselves read appeared to be at odds with a school version of literature. It appeared that the less experienced teachers were especially influenced by the school approach to literature. The teaching of all five appeared to be influenced in some measure by the state test, with teachers often teaching directly to a list of core competencies that the test assessed.

CRAWLEY, SHARON J., & MOUNTAIN, LEE. (1988, Summer). Perceptions of teachers' values and values in basal readers. *Journal of Affective Reading Education, 9*(1), 7-26.

Investigates the relation between the values teachers perceived themselves as teaching and the values they perceived as being presented in basal readers. Subjects were 19 teachers in grades K-3 and 18 teachers in grades 4-6, who were asked to rate on a 5-point Likert scale the values they perceived themselves as teaching and the values they perceived being presented in their basals. Teachers at the two levels differed in their views as to the extent to which they taught both instrumental and terminal values to children and the extent to which they viewed the basals as presenting these values. Primary level teachers felt that they taught instrumental values to a significantly greater extent than did basals, while upper elementary teachers showed no significant difference between how they viewed themselves and how they viewed the basals as presenting these values. Primary grade teachers viewed themselves as doing a better job of teaching terminal values than did the basals; upper elementary teachers saw themselves and the basals as doing an equally good job of teaching the terminal value of equal opportunity for all. They felt that they did a significantly better job of teaching the terminal values of feeling of achievement, freedom of choice and action, religious life, and a secure country than did the basal.

BADER, LOIS A. (1984-1985). Practice and perceptions of remedial reading specialists. *Journal of Clinical Reading, 1*, 1-3.

Reports on a 4-year study examining the interrelations between perceived reading difficulties and the practices of remedial reading specialists. The sample was 38 elementary and 9 secondary reading specialists from an innercity school district in Michigan. Most teachers had a master's degree in reading or had taken an 18-credit sequence in reading. The survey administered to the teachers collected information concerning case loads, diagnostic and remedial procedures, and the severity of student difficulties. On the average, each specialist had a case load of 50 students who were seen on an average of four times per week in 45-minute sessions. A median of students were considered to have severe reading problems, with the rest classified as having mild problems. Word list tests and standardized measures were listed as the diagnostic procedures used most frequently at either level. The most frequently used remedial approaches were basals and phonics programs for the elementary grades (90%) and commercial remedial packages for the secondary levels. Early detection (85%) and alternate instructional programs (75%) were thought to be facilitators of successful remediation.

SCHELL, LEO M., & ROUCH, ROGER L. (1988, Fall). The low reading group: An instructional and social dilemma. *Journal of Reading Education, 14*(1), 18-23.

Compares student teachers' and experienced teachers' perceptions of children assigned to low and high reading groups. Participants in the study were 103 student teachers from two teacher education institutions and 112 elementary classroom teachers from at least seven different school districts. The latter group ranged in teaching experience from 1 to 37 years. On the first and last day of their student teaching experience, student teachers were administered a 14-item semantic differential scale assessing their perceptions of high and low reading groups. Experienced teachers' perceptions were assessed only once. ANOVA procedures used to compare group means indicated student teachers' perceptions of low reading groups, on both the pre- and postassessment, were significantly more negative than experienced teachers' perceptions of low reading groups. An exception was noted in comparisons made between student teachers and teachers having two years or less experience. No differences were noted in their perceptions of low groups. Student teachers' perceptions of high groups were favorable as compared to their perceptions of low groups.

TELFER, RICHARD J.; JENNINGS, ROBERT E.; MCNINCH, GEORGE; & MOTTLEY, REED. (1990). A comparison of student and teacher perceptions of students at-risk. In Bernard L. Hayes & Kay Camperell (Eds.), *The yearbook of the American Reading Forum* (pp. 41-53). Athens, GA: American Reading Forum.

Looks at students' and teachers' perceptions of what it means to be at risk. The samples were drawn from four small cities and consisted of 82 high school students who were considered at risk due to truancy and poor grades, 100 high school students who were not considered at risk, and 79 high school teachers. A survey was administered to all subjects asking them to rate 20 factors associated with being at risk, and to indicate what they thought would be helpful for at risk students. Students appeared less aware of the impact of the risk factors listed on the questionnaire than did teachers. Teachers perceived attitude and attendance as important predictors of success in school. At-risk students listed "showing concern" and "listening" as important for school improvement, while teachers claimed that providing programs was what was needed.

Lumpkin, Donovan. (1991). Literacy and comprehension competencies of secondary school youth as perceived by European and American educators: Interpretations and implications. In Betty Anderson (Ed.), *Teacher education for literacy around the world* (pp. 19-24). St. Cloud, MN: Organization of Teacher Educators in Reading.

Explores the perceptions held by European and American educators with regard to the reading and comprehension abilities of secondary school students in their own countries. Faculty from one or two schools in 17 European countries and 17 American states were surveyed during the 1980s. A total of 93 educators from Europe and 98 from the USA responded to questions probing their perceptions of students' reading and comprehension in various areas of the curriculum. The mean responses of the European and American samples regarding their own students' degrees of competency were basically similar. The European and American samples also reported use of similar practices for improving reading comprehension, including scheduling students into designated class sections, reducing required reading demands in some classes, and providing instruction in study strategies. However, content area teachers in both samples reported feeling inadequate in terms of helping students with their reading needs. Both the European and the American sample made recommendations for improving the status of literacy that centered on making changes in the system rather than in making changes in instructional methodology.

Sosniak, Lauren A., & Perlman, Carole L. (1990, September/October). Secondary education by the book. *Journal of Curriculum Studies, 22*, 427-442.

Reports on student perceptions regarding textbook use across secondary subjects. Forty-four tenth graders from three public schools were interviewed on how textbooks were used in their English, math, and history classes. The math textbook was used as the source of practice/problem activities. Teacher mediation in the use of the math book was essential due to its implicit nature and lack of clarity. Literature anthologies and grammar books were the common printed materials used in English classes. Unlike math, students were expected to be able to work without much teacher intervention since the English books were self-contained. Students appeared more tolerant of their work in the grammar books because of the perceived applicability. While the history books were similar to English texts, teachers tended to elaborate content introduced in the book and to hold more student-centered discussions.

Rafferty, Cathleen D., & Rose, Leonie M. (1990, Summer). The state of reading: A profile of Michigan's reading professoriate. *Michigan Reading Journal, 23*, 42-56.

Provides survey results of reading professors' views on reading and reading practices. The professors' dissemination of such views within reading courses required for elementary and secondary teaching certification was a focus of interest. Questionnaires for the study were sent to 100 professors and instructors at 32 Michigan colleges and universities that offer reading courses required for teacher certification. An 83% response rate revealed the vast majority of Michigan's reading professors view reading as an interactive process. None of the respondents professed a bottom-up or test-based view. Practices emphasized and recommended by most respondents (i.e., modeling, prior knowledge activation, informal evaluation) were consistent with their definitions of reading. Elementary or elementary/secondary course instructors professed to stress whole language and the integration of reading/language arts, while secondary or elementary/secondary course instructors professed to stress reading/writing activities along with study/learning skills. The reading professors as a whole employed classroom teaching techniques that are in line with an interactive view of reading.

Rebottini, Sondra, & Smith, Patricia K. (1990). An analysis of reading textbooks used at the college level. In Bernard L. Hayes & Kay Camperell (Eds.), *The* *yearbook of the American Reading Forum* (pp. 151-162). Athens, GA: American Reading Forum.

Questions professors at 70 institutions of higher education across the country to identify and analyze the most frequently used college textbooks. Thirty-four texts were identified as most frequently used in teaching foundations of reading, elementary reading, content area reading, diagnosis/remediation, and children's literature. The surface readability levels of the textbooks were determined by averaging five readability scales: Dale-Chall, Fry, Raygor, Flesch, and Gunning-Fog. The majority of textbooks in two categories appeared appropriate for undergraduates, while texts suitable for graduate and doctoral level courses were few. Duplications of textbooks across categories and course levels suggest that professors use textbooks that are available. These textbooks may not be suitable for graduate courses where challenging texts should match the advanced abilities of students.

MILLER, JANET A. (1991). Cross cultural study of teacher beliefs about reading. In Betty Anderson (Ed.), *Teacher education for literacy around the world* (pp. 25-27). St. Cloud, MN: Organization of Teacher Educators in Reading.

Examines the underlying beliefs about reading and reading instruction held by infant school teachers in England. The survey instrument used in the study, the DeFord Theoretical Orientation to Reading Profile, was sent to infant school and infant department teachers and head teachers from 63 schools randomly selected from schools in two counties in northeastern England. The respondents were 146 teachers and heads from over 40 different schools, representing a response rate of 42%. Analysis of the data revealed that only 2% of the teachers and heads who responded to the survey held a phonics orientation. Most respondents (82%) revealed themselves as holding a skills orientation which encourages the learning of multiple strategies for identifying words. The remaining 16% held a whole language orientation.

GROSSMAN, PAMELA LYNN. (1990). *The making of a teacher: Teacher knowledge and teacher education*. New York: Teachers College Press.

Studies six beginning high school English teachers to determine the influence of their subject matter knowledge and their pedagogical content knowledge on their teaching. Three of the teachers entered teaching through nontraditional routes and did not receive formal teacher education. The other three teachers all graduated from the same teacher education program and received master's degrees in education and teaching credentials for secondary English. Data were collected through five structured interviews, classroom observation of instruction, and nonparticipant observation of the teacher education program. Three of the interviews included tasks: a card sort, a simulated teaching act, and a simulated planning act. The noncertified teachers were found to possess high levels of subject matter knowledge but low levels of pedagogical knowledge. They tended to assume that students would be like themselves in their abilities and interests. They tended to model their teaching after what they remembered about their own teachers. The teacher education graduates were found to have more realistic expectations of students. They tended to attempt to find ways to connect literature to their particular students' lives and to have a process-oriented view of writing. Specific techniques and beliefs that were nurtured in the teacher education program were found in these teachers' practice.

II-2 Beliefs/attitudes toward reading

MCNINCH, GEORGE W., & STEELMON, PEGGY. (1990, Fall). Perceived reading status of teacher education students. *Reading Improvement, 27,* 203-206.

Investigates prospective teachers' perceptions of themselves as readers. Voluntary participants in the study were 42 undergraduate teacher education majors enrolled in an introductory reading methods course. The subjects were asked to respond to a 21-item Reading Status Survey. The first item elicited a categorical self-appraisal of each subject as a frequent reader, an occasional reader, or a nonreader. The remainder of the items probed what the students read, how often they read, and why. Responses to the latter items were each assigned point values ranging from 0 to 3, with the higher numbers signifying a higher literacy status. Tabulation of responses to item 1 showed none of the prospective teachers perceiving themselves as nonreaders, and the group being about equally divided into frequent readers or occasional readers. ANOVA procedures comparing total scores received by frequent and occasional readers on the survey indicated the former to have higher literacy intensity than the latter.

GIPE, JOAN P., & RICHARDS, JANET C. (1990, Spring). Promoting reflection about reading instruction through journaling. *Journal of Reading Education, 15,* 6-13.

Examines preservice teachers' reflective concerns about reading instruction through journaling. Subjects were 12 elementary education majors enrolled in reading/language arts courses and taking part in field-based experiences in an innercity school. As part of the course requirements, students kept journals pertaining to their teaching experiences and submitted entries weekly to their college instructors who responded with comments promoting reflection. "Constant Comparative" analyses of journal entries made over a 16-week period revealed four stages of reflective concern in the students' writings. These were concerns with self and self-adequacies, with self and satisfaction, with self and blaming others, and for their students and the teaching profession.

WRAY, DAVID. (1988, Fall). The impact of psycholinguistic theories on trainee-teachers' views of the teaching of reading. *Journal of Reading Education, 14*(1), 24-35.

Proposes to obtain information on preservice teachers' views of the reading process and whether they change during their preservice education. Subjects, 40 students randomly selected from the second year cohort of an undergraduate program in England, were asked to respond to a 12-item questionnaire asking for a rating of importance of each item to reading instruction on a 5-point Likert-type scale. Replies were received from 33 students who were asked to respond to the questionnaire again two years later. At the second administration, 27 forms were returned. Results indicated little change in view from the first to the second administration of the instrument. The author questions whether the students were introduced to psycholinguistic theories of the reading process during their preservice training.

STEWART, ROGER A. (1990, Summer). Factors influencing preservice teachers' resistance to content area reading instruction. *Reading Research and Instruction, 29,* 55-63.

Examines factors influencing secondary teachers' resistance to teaching reading through the content areas. Subjects were over 200 students in education enrolled in a required content area reading course at a large midwestern university. Qualitative research techniques were applied to various data sources including taped group discussions centering on education decision making; narrative course evaluations; academic journal recordings of reactions to course readings, class lectures, and laboratory activities; and structured interviews of 10 subjects. Findings indicated resistance stems from various workplace constraints as well as preconceived notions of the teacher's role in the secondary school.

SHYMANSKY, JAMES A.; YORE, LARRY D.; & GOOD, RONALD. (1991, May). Elementary school teachers' beliefs about and perceptions of elementary school science, science reading, science textbooks, and supportive instructional factors. *Journal of Research in Science Teaching, 28,* 437-454.

Assesses elementary school teachers' beliefs, perceptions, and practices relating to classroom use of science textbooks. Subjects were 522, K-8 school teachers from 299 schools located in all 50 states, Puerto Rico, and the Virgin Islands. Subjects responded to a questionnaire that probed three aspects of reading/science instruction: (1) teacher attitudes toward the teaching of reading in conjunction with science content; (2) teacher beliefs about models of reading, influences on science reading, and science reading skills; and (3) teacher use of various teaching practices. The 33 Likert-type items on the questionnaire were submitted to factor analysis techniques, and coefficients of correlation, frequency distributions, percentages, means, and standard deviations pertaining to appropriate items were computed. Results suggested that elementary school teachers realize the importance of providing science instruction that is rich in hands-on activities. However, teachers' concern over covering topics inhibits implementation of an activities approach. Elementary teachers also seem to regard the process of reading science text as being the same as the process of reading narrative. They appeared to lack awareness of the unique language and text structure of expository material.

YORE, LARRY D. (1991, January). Secondary science teachers' attitudes toward and beliefs about science reading and science textbooks. *Journal of Research in Science Teaching, 28,* 55-72.

Describes a two-phase naturalistic study of British Columbia teachers' attitudes toward and beliefs about science reading and science textbooks. Phase 1 assessed 215 secondary science teachers' attitudes toward and beliefs about science reading and science texts through administration of a Science and Reading Questionnaire (SRQ) which was based on an existing scale and which integrated current research findings pertaining to reading/science instruction. Phase 2 focused on validation of the SRQ through interviews and observations conducted on a subsample of 15 teachers who responded to the SRQ. Data from the SRQ were analyzed using various techniques including factor analyses, correlations, measures of reliability, percentages, means, and standard deviations. Interview and observation data from the subsample were compared to corresponding questionnaires for validation purposes. Descriptive statistics for the attitude scale indicated respondents consistently valued the importance of content area reading. Moreover, most respondents indicated acceptance of the responsibility of teaching reading through science materials. Descriptive statistics for the belief scale indicated that most respondents disagreed with the notion that reading is a text driven process. However, most did not subscribe to any other acceptable model of reading which might guide their teaching practices. Findings also showed that most respondents were not aware of the cognitive and metacognitive skills needed for successful learning from science texts. Interviews and classroom observations supported findings from the questionnaires.

RICHARDSON, JUDY S., & MINTON, PAUL D. (1987, Spring). The three A's: Influencing teachers' awareness, attitudes, and anxieties about computer usage in reading instruction. *Journal for Affective Reading Education, 8,* 35-53.

Attempts to assess the influence of a brief workshop on computer usage for teaching reading on the awareness, anxieties, and attitudes of teachers. The sample consisted of 35 female students in two reading methods classes, one graduate and one undergraduate. A nine-item questionnaire was administered four times, twice before and twice after a 90-minute workshop on microcomputer usage. Both groups appeared to be anxious about working with computers, but their anxiety decreased following the workshop. A gain in positive attitude was also found.

Kinzer, Charles K. (1988, December). Instructional frameworks and instructional choices: Comparisons between preservice and inservice teachers. *Journal of Reading Behavior, 20,* 357-377.

Investigates and compares the belief systems concerning reading of preservice and inservice teachers. A questionnaire-type inventory was administered to 83 preservice and 44 inservice teachers. The inventory consisted of (1) two questionnaires designed to identify beliefs about how reading takes place and how reading develops, and (2) a set of three lesson plans in each of three areas (vocabulary, comprehension, syllabication) written to reflect different explanations of how reading takes place and develops. Subjects were to choose the lesson plan in each area that they felt most effective and best exemplified how they would teach. Inservice teachers were about equally divided between reader-based and interactive explanations for how reading takes place, while preservice teachers favored a reader-based explanation by a slight margin. Both groups selected holistic language explanations about how reading develops as opposed to skill mastery or differential acquisition explanations. Subjects in both groups who selected reader-based, holistic explanations of how reading took place tended to select lessons reflecting their beliefs. However, subjects who had selected text-based, interactive mastery of specific skills and differential acquisition explanations for how reading took place tended not to select lessons consistent with their theoretical orientation.

Fish, Marian C., & Margolis, Howard. (1988, Winter). Training and practice of school psychologists in reading assessment and intervention. *Journal of School Psychology, 26,* 399-404.

Surveys a national sample of school psychologists to assess their perceptions about training, current practices, and expertise in reading assessment and intervention. A 50.33% response rate was received from a mail questionnaire sent to 300 individuals. The questionnaire consisted of 31 four-point Likert-type and completion items assessing demographic characteristics, training in reading diagnosis and remediation, current practices and perceptions of expertise, and future needs. About two-thirds of respondents had taken one or fewer courses as part of their school psychology training programs; 71% took one or fewer reading courses outside their school psychology program. Respondents indicated that more time should have been devoted to the diagnosis and remediation of reading problems. They replied that they often made recommendations regarding reading and thought that knowledge of reading assessment and remediation for school psychologists was quite important. In general, results of the survey indicated a large gap between the training of school psychologists and their professional responsibilities in assessment and remediation of reading difficulties.

Bergeron, Bette S. (1990, December). What does the term whole language mean? Constructing a definition from the literature. *Journal of Reading Behavior, 22,* 301-329.

Analyzes 64 journal articles from 1979 to 1989 pertaining to whole language (WL) instruction in elementary classrooms in order to construct a definition and to identify strategies and techniques associated with WL. Criterion for inclusion in the literature analysis was that the term WL must appear within the title, abstract, or text of the articles. Each journal article was read at least three times and a checklist was used to code common characteristics. No definitive conclusions could be drawn specific to WL definitions. However, over half of the articles reviewed described WL as a philosophy or as an approach; 33% of the articles did not contain definitions. A focus on constructing meaning and on functional language appeared as associated terms in more than half of those articles reviewed. The techniques and strategies associated with WL included use of literature, writing process, and cooperative/affective considerations. The need for definitional consistency and adaptations was noted.

II-3 Preservice/inservice preparation

Hoffman, James V.; Roser, Nancy L.; & Farest, Cindy. (1988). Literature-sharing strategies in classrooms serving students from economically disadvantaged and language different home environments. In John E. Readence & R. Scott Baldwin (Eds.), *Dialogues in literacy research* (pp. 331-337). Chicago, IL: National Reading Conference.

Characterizes aspects of typical storytime practices of primary grade teachers and examines whether these strategies change as a result of participation in training sessions. Subjects in the study were 50 kindergarten and first grade teachers working with Hispanic children from economically and language different home environments. Training took place over a 2-day period and focused on the rationale and use of effective literature-sharing techniques. Tape recordings of lessons implemented in the classroom interviews, site visitations, and coded classrooms served as feedback for the study. Behaviors common among teachers included predicting, encouraging pupil participation, helping link the story to student experiences, developing vocabulary, commenting on the text, and extending pupil responses. Analysis of pre- and posttraining tapes indicated that teachers were successful in implementing effective literature-sharing strategies in their classrooms. An increase was noted in the interaction and participation among children.

Moore, Margaret A., & Diamond, Barbara. (1991). A staff development model for enhancing reading and writing skills through the use of multicultural literature. In Betty Anderson (Ed.), *Teacher education for literacy around the world* (pp. 47-53). St. Cloud, MN: Organization of Teacher Educators in Reading.

Describes a staff development program directed at improving the reading and writing performance of fourth graders in three school districts. In general, the districts involved children who were economically deprived, advantaged, or varied. The program, which was offered in five inservice sessions throughout a calendar year, guided teachers in integrating a multicultural literature-based program with the traditional basal program while incorporating the pupils' language and culture in the curriculum. Sessions included presentation of theory, demonstrations of methods and activities, sharing of successes, discussions of management techniques, and discussions of program adaptations. As part of the ongoing program, teachers were visited by inservice educators twice a month so that program implementation could be supported. Results of the program indicated teachers shifted from stages of awareness and understanding to stages of application in the use of multicultural literature for the development of reading and writing skills. The teachers' behaviors and attitudes became more positive as inservice sessions progressed. Reading and writing achievement scores of children exposed to the new curriculum improved significantly as compared to children who continued in the traditional curriculum.

Thistlethwaite, Linda; Barclay, Kathy Dulaney; Castle, Marrietta; & Lewis, Wilma Jean. (1991, April). Multi-session reading inservice: A step in the right direction. *Reading Horizons, 31*, 299-311.

Evaluates the effects of varying amounts of inservice on teachers' perceptions, understandings, and planned usages of reading instructional strategies presented. Subjects were 58 third through sixth grade teachers from eight midwestern rural or small town school districts. Depending on the district in which they taught, teachers received one, three, or five sessions of inservice in which they were presented with five strategies: (1) the conceptual approach to teaching vocabulary, (2) semantic mapping, (3) idea mapping, (4) reciprocal teaching, and (5) the content DRTA. In addition to a theory-based lecture in which the five strategies were introduced (Session 1), the three and five sessions groups received modeling and guided practice respectively (Sessions 2 and 3). The five sessions group additionally received feedback, sharing, and coaching on the various strategies presented (Sessions 4 and 5). Results of ANOVA procedures applied to data from pre- and postinservice questionnaires indicated the five sessions group had significantly greater understanding of the strategies taught compared to the one and three sessions groups, even when the effects of such influencing factors as undergraduate course experience and attitude toward attending inservice sessions were removed.

MYERS, SAMUEL S. (1990, Spring). Training prospective secondary teachers to monitor students' metacognitive strategies. *Journal of Reading Education, 15,* 22-34.

Reports the rationale, procedures, and results from a training program designed to help Jamaican preservice secondary teacher trainers teach their prospective teachers how to monitor students' metacognitive strategies. The program used a response management technique which involved training in questioning strategies, with special focus on eliciting information from students concerning the accuracy of their responses as a basis for monitoring metacognitive reading strategies. Prospective teachers were assessed for their application of the questioning principles and the response management techniques during a 1-hour teaching session. All eight teacher trainers reported improved performance of the prospective teachers over prospective teachers of previous years.

SIEDOW, MARY DUNN; FOX, BARBARA J.; MONROE, EULA EWING; & WADE, REBECCA. (1988-1989, Winter). Inservice activities conducted by reading teacher educators. *Journal of Reading Education, 14*(2), 29-38.

Probes the extent to which reading teacher educators are involved in inservice activities and the nature of the activities provided. A questionnaire structured to survey topics offered for inservice and issues related to inservice was sent to 98 members of the Organization of Teacher Educators in Reading. A response rate of 59% yielded several insights pertaining to inservice education. At least 91% of the respondents reported spending less than one quarter of their working time in inservice activities. Also, most reading educators reported the view that offering inservice activities contributed very little, if anything, to their quests for promotion and tenure. Topics most often focused on during inservice activities fell within three categories: reading skills and abilities; organization, management, and administration of the school reading program; and materials and approaches. Least often addressed during inservice activities was the topic of reading attitudes.

MEEKS, JANE W., & ESTES, THOMAS H. (1988). Is there a core curriculum in reading education? A sense of the essential. In Donovan Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.), *The dilemmas of teaching reading* (pp. 51-54). Muncie, IN: Ball State University.

Sends a questionnaire to 30 universities to determine if they offered a graduate level foundations course in reading and the content of that course. Responses were received from 21 universities, with 5 indicating that they had no such offering. Of the 16 with full responses, lecture was given as the most common form of instruction. Assignments and requirements showed a variety of responses. A number of different titles were mentioned as textbooks. Objectives fell into five major categories.

WEDMAN, JUDY M., & MOUTRAY, CAROL. (1991, Winter). The effect of training on the questions preservice teachers ask during literature discussions. *Reading Research and Instruction, 30,* 62-70.

Examines the effects of training on frequency and type of questions asked by preservice teachers during literature discussions. Subjects were 36 preservice teachers enrolled in a required reading methods course at a large midwestern university. Subjects were rank ordered according to their grade point averages and distributed, in turn, to one of three conditions in which they received: (1) instruction on how to formulate text-based inference questions (TBIQ) and prior knowledge-based inference questions (PKBIQ); (2) instruction on labeling question types and rewriting questions provided in a basal reader guide; or (3) no instruction on questioning procedures. The source of the data was six different literature discussion sessions which took place during weeks 3, 5, and 7 of an 8-week project. The data consisted of written question agendas prepared by the subjects during weeks 2, 4, and 6, and audio recordings of the three groups as they discussed assigned literature books. Written and audiotaped questions were categorized as literal questions, TBIQ, or PKBIQ by three independent raters. Occurrence frequencies and percentages of question types were submitted to ANOVA procedures. Analysis showed training can influence teachers' questioning practices. Both groups receiving training generated higher frequencies and percentages of TBIQ questions than the control group. For all groups, practice opportunity increased TBIQ frequency of occurrence over time.

MORRIS, BERT. (1988, March). Preparation of Australian secondary teachers in the teaching of reading. *Australian Journal of Reading, 11*, 54-64.

Presents information on the content and hours of instruction allocated for preparing secondary teachers in Australia to teach reading and compares the findings with those from data collected 10 years earlier. Data were based on replies received from 33 institutions preparing secondary teachers. Slightly over half of the secondary teacher preparation programs were of 1 year's duration with another third requiring 4 years; the remainder provided a 3-year program. Almost two thirds of the training courses provided no study in the teaching of reading as a compulsory part of their course, while 36% did provide such study. Of courses which did require studies related to reading, about 10% offered more than 51 hours in reading, while 37% provided less than 51 hours. Only two institutions provided study in content reading. There was some increase in the number of hours in the study of reading required from the previous survey.

SHEFELBINE, JOHN, & SHIEL, GERRY. (1990, Fall). Preservice teachers' schemata for a diagnostic framework in reading. *Reading Research and Instruction, 30*, 30-43.

Studies preservice teachers' knowledge of a model of reading diagnosis and its use in making decisions about pupils' instructional needs. Subjects were 39 preservice teachers enrolled in elementary reading methods courses at a large southwestern university. Most subjects were in their junior year and had no experience teaching reading. After attending a semester of classes, subjects were given a final exam containing 15 scenarios, 3 each for four major types of reading problems (word identification, fluency, background knowledge, and comprehension), and 3 more for a fifth condition involving insufficient information. Subjects were asked to determine any major instructional needs that could be determined from the information available in each scenario. Quantitative and qualitative analyses were applied to the subjects' responses. Results indicated subjects found some components of the diagnostic model easier to understand and deal with pedagogically than others, with fluency being the easiest and word identification the most problematic. Subjects had the most difficulty knowing when they had insufficient information. Underdeveloped diagnostic ability was related to six types of misinterpretations that reflected (1) a poorly developed concept of the diagnostic model as a whole, (2) a tendency to be confused by irrelevant or secondary contextual factors, and (3) a tendency to focus on such factors as general ability, motivation, or teaching activities.

SCHELL, LEO M. (1990). Student teachers' perceptions of basal reader materials and methodology. In Bernard L. Hayes & Kay Camperell (Eds.), *The yearbook of the American Reading Forum* (pp. 105-109). Athens, GA: American Reading Forum.

Questions 64 elementary education student teachers at the end of their student teaching experience about their use of and preparation for using basal readers during their field experience. Daily use of basals was reported in 74% of the student teaching classrooms. Forty percent of the student teachers reported at least occasional use of children's tradebooks. Preservice teachers felt confident in the preteaching vocabulary, discussion, and skill development steps of the DRA, but did not feel prepared for introducing the lesson or extending/enriching comprehension after reading the selection. Over half of the student teachers reported the daily use of worksheets and skillpacks, suggesting that these elements should be addressed in reading methods courses.

HERRMANN, BETH ANN. (1990). A longitudinal study of preservice teachers' knowledge structures. In Jerry Zutell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 145-152). Chicago, IL: National Reading Conference.

Describes knowledge structure development of preservice teachers across four 15-week teacher education courses: teacher effectiveness, practicum, reading methods, and student teaching. Three education majors were randomly selected from 20 juniors enrolled in the teacher effectiveness course. Students averaged 22 years of age, had GPAs of 3.2 or better, and had completed all basic coursework. Subjects constructed an ordered tree before, during, and after the four courses, except for student teaching which was only pre- and post. The ordered trees allowed students to display how concepts are tied together into a network of relations. Twenty-seven ordered trees were examined and analyzed using separate numerical and coherence measures. It was found that specific knowledge structures which are fairly well organized and coherent develop during courses but are nonintegrated across the entire teacher education program. Lack of cohesion and integration across curricula, lack of attention to teacher conceptual change, and lack of emphasis on becoming reflective practitioners are discussed as possible reasons for the lack of integrated knowledge structures found.

DOWHOWER, SARAH. (1990). Students' perceptions of early field experiences in reading. In Bernard L. Hayes & Kay Camperell (Eds.), *The yearbook of the American Reading Forum* (pp. 163-179). Athens, GA: American Reading Forum.

Questions 155 prestudent teachers on their perceptions of and reactions to one of two 10-week early field experiences. Sampled were elementary education majors in one of six sections of reading methods courses at a midwestern university. As part of the methods block, students spent 20 full days in two early field experiences in two different public schools. At the end of the semester, students were asked to describe and evaluate classroom reading instruction in one of their field experiences. Results indicated that the students rated the experience as positive (18%), negative (54%), or both (28%). The major concerns of the prestudent teachers were the overuse of workbooks/worksheets, the reliance on basals for reading instruction, and the predominance of whole class instruction. Students noted that recommended practices professed in methods courses are incongruent with actual classroom practice.

RUBIN, DONALD L., & ALVERMANN, DONNA E. (1990, Summer). Teacher assessment and teacher change in classroom communication behaviors. *Reading Research and Instruction, 79*, 18-25.

Illustrates through one case study a diagnostic model that encourages content teachers to modify their instructional styles during classroom discussion of textbook reading. For instructors being assessed, the model basically includes identification of instructional communication patterns warranting change and goal setting for development. Five stages through which teachers implementing the model progress are: (1) monitor off (no reflection takes place with reference to goals or communication patterns), (2) monitor on (consciousness is reached with reference to goals or communication patterns), (3) goal setting (objectives for behavioral change are made), (4) expanding repertoires (new teaching methodologies are incorporated), and (5) consolidation (successful behavioral methodologies are assimilated).

BEAN, RITA M., & QUATROCHE, DIANA. (1989-1990). Preparation of reading specialists: Ready for the real world? *Journal of Clinical Reading, 3*, 1-4.

Evaluates the nature and applicability of clinical experiences for reading specialists. Directors of reading clinics in colleges and universities from 10 states sent questionnaires to 10 randomly selected recent graduates of their reading programs. A response rate of 42% or 62 returned questionnaires supply the data. Of the respondents 14% were currently reading specialists, while the remainder were employed as classroom teachers. The fixed response survey asked teachers to identify and rate clinical activities experienced as well as how often each activity was currently used in practice. The typical clinical experience focused on identifying goals, lesson planning, and developing/organizing materials used during individual and small group tutoring. Atypical of the clinical experience, but considered essential in actual practice, was working with secondary students, meeting frequently with parents, and utilizing homework. Teachers reported that direct instruction, motivation, free reading, and vocabulary are common foci currently used. Observations and the use of IRIS were cited as common assessment devices for both clinical and classroom settings.

LAINE, CHESTER; BULLOCK, TERRY; & FORD, KAREN. (1990). Developmental reading classrooms as practicum sites for prospective English teachers. In Bernard L. Hayes & Kay Camperell (Eds.), *The yearbook of the American Reading Forum* (p. 133-142). Athens, GA: American Reading Forum.

Examines the effectiveness of a college reading practicum site for the preparation of secondary English language arts teachers. A 19-item questionnaire was sent to 27 graduates from a midwest research institution. On the average, students reported that their field experience in the college developmental reading setting was positive. Convenience of the campus location and opportunities to interact with the cooperating teacher were noted as benefits. The graduates also reported that the field experience provided fewer opportunities for classroom instruction, for contributing their own ideas, and for learning about the reading process. Although the setting reduced the classroom management demands, some subjects expressed concern over the atypical nature of the setting.

II-4 Roles

DOAN, MARIE F., & NOLAND, RONALD G. (1988, Fall). Leadership perceptions of the elementary school reading program. *Reading Horizons, 29*, 13-21.

Identifies similarities and differences between principals' and teachers' perceptions of the involvement of principals in the elementary school reading program. Included in the study were 245 teachers from 15 randomly selected elementary schools in a county school system in Alabama and 51 elementary school principals from the same district. Participants were given questionnaires requesting demographic data as well as responses to nine items related to principals' involvement in the reading program. Perceptions of the two groups differed significantly. Both primary and intermediate teachers perceived principals as being less involved in the reading program than did the principals themselves.

Sumara, Dennis, & Walker, Laurie. (1991, April). The teacher's role in whole language. *Language Arts, 68*, 276-285.

Examines the role two teachers played in establishing effective whole language environments. The two teachers who took part in the study were selected because they were considered effective whole language teachers by university faculty, school administrators, teaching peers, as well as by themselves. One teacher taught in a third grade classroom in a suburban middle class school, while the other taught in a fourth grade classroom in a more culturally diverse school. Both schools were located in a small agricultural service city in Alberta. Observations of teachers took place 2 days a week over a period of approximately 3 months and yielded data in the form of observational notes, formal and informal interviews with teachers and pupils, audio and videotapes of classroom interactions, collections of pupils' work, teachers' plans, and resource materials. Distinct themes emerged from the data with regard to teachers' enactment of empowerment, control, predictability, and authenticity concepts. Both teachers promoted empowerment by establishing classroom rules, expectations, and values needed for the whole language principles to succeed. Both teachers maintained control of classes, offering them within social and academic environments that were predictable and safe. Also both teachers established authenticity by providing for, demonstrating, and modeling purposeful learning.

Bean, Thomas W., & Zulich, Jan. (1990). Teaching students to learn from text: Preservice content teachers' changing view of their role through the window of student-professor dialogue journals. In Jerry Zutell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 171-178). Chicago, IL: National Reading Conference.

Explores preservice content area teachers' changing views of a required course through student-instructor dialogue journals. The content area course involved field-based observations and participation in junior/senior high schools. Students and the instructor of the course wrote for 10 minutes at the beginning of each class and exchanged journals for responses. Intensive content analysis of three dialogue journals (English, agriculture, mathematics) provides the data for the study. On the average, each journal contained eight entries which were transcribed and examined. Content area courses appeared to be incongruent with school experiences. Preservice content teachers view their role as an apprenticeship rather than as a reflective change agent. Competing forces of subject disciplines and school-based cultures, as well as individual development, influenced the perceived roles of preservice teachers.

Chance, Cindi. (1991, Spring). Principals' perceptions of their involvement in the elementary school reading program. *Reading Improvement, 28*, 26-34.

Assesses the degree of perceived involvement of principals in the elementary school reading program. Approximately one-third (n=398) of all elementary school principals in Tennessee were administered a survey probing their perceived involvement in the planning, management, operation, and evaluation of the school reading program. Various factors were evaluated in terms of their relation to perceived degree of involvement. Of those surveyed, a 64% (n=255) return rate was attained. Results of ANOVA procedures applied to the data suggested principals were significantly more involved in management and evaluation of school reading programs than in planning and operation. Female principals surpassed male principals in their degree of involvement in all four areas. Also, training in reading was positively related to degree of involvement. Years of teaching or administrative experience, taken separately, had no relation to degree of involvement.

II-5 Evaluation of programs and materials

MOUNTAIN, LEE, & CARLILE, CANDY. (1990, Fall). How do teachers rate the selection criteria for reading texts? *Journal of Reading Education, 16*, 35-40.

Evaluates the degree of importance teachers place on criteria items established for the selection of reading texts. The subjects were 108 teachers involved in reading instruction in grades ranging from K-12. The subjects, varying in years of teaching experience, were enrolled in graduate level reading courses. The subjects were asked to respond to a 41-item state devised survey that would be used for the selection of a supplementary reading text and to indicate the degree of importance placed on each item. Results showed most teachers (88%) favored texts that fostered literary appreciation skills. Only 40% of the teachers favored texts that fostered word attack skills. Items most often considered important in reading texts were those that encouraged students' independence in reading, those that appealed to the students' interest levels, and/or those that fostered critical thinking. Readability factors as well as material complexity factors were also considered highly by many teachers. A high percentage of the teachers (90%) indicated a desire for texts that offer suggestions on how to adapt instruction to the needs of students of varied abilities.

RICH, SHARON, & PRESSLEY, MICHAEL. (1990, September). Teacher acceptance of reading comprehension strategy instruction. *Elementary School Journal, 91*, 43-64.

Attempts to determine the degree to which certain reading strategies are acceptable to teachers. Subjects were 33 Ontario based teachers varying in experience and years of teaching and enrolled in education courses. Of the subjects, 17 were asked to respond to a 21-item acceptability scale for each of seven basic reading strategies as well as reciprocal instruction. The remaining 16 were asked to respond to the same scale as it pertained to strategies presented in six sets of published materials. In addition, all subjects were asked to respond to 11 open-ended questions presented on each questionnaire. Qualitative and quantitative analyses of various data indicated all strategies to be in the acceptable range. However, clear differences existed in the acceptability of the various interventions. Mean comparisons showed prior knowledge activation, representational imagery, and question generation to be favored over other basic strategies. Of the publications examined, four out of six were rated acceptable with one reading series receiving a very high acceptability rating. Open-ended remarks clearly revealed teachers' concerns about published materials.

SUDWEEKS, RICHARD R. (1991, Spring). Validation and standard-setting studies for the Preprofessional Skills Test for the teacher education program at Brigham Young University. *Contemporary Issues in Reading, 6*, 95-107.

Reports on two studies designed to validate and set standards for the Preprofessional Skills Test (PPST) as a screening examination for teacher education candidates at Brigham Young University. In order to obtain informed judgments about the subtests, three separate panels consisting of university faculty and practicing educators from the public schools were convened. There were 10 educators for the writing subtest, 10 more for the mathematics subtest, and 12 for the reading subtest. Panelists began by responding to all items (except the essay) under typical conditions. Upon completion, they were informed of the correctness of their responses and asked to engage in two tasks. For validation purposes, panelists were asked to rate the skill or knowledge measured by each item in terms of its importance as an indicator of successful teaching performance by a beginning teacher. For standards-setting purposes, panelists were asked to estimate the difficulty of each item for borderline test-takers. Using 80% as the criterion for relevant items on each subtest, the mathematics subtest of the PPST barely satisfied criterion. However, the reading and the writing subtests clearly exceeded criterion. Procedures for standard-setting provided a basis for establishing minimally acceptable scores for admission to the teacher education program.

Thompson, Deborah L. (1988). Teachers' reactions to a state mandated basic skills reading test. In Donovan Lumpkin, Mary Harshbarger, Peggy Ransom, & Joan Williams (Eds.), *The dilemmas of teaching reading* (pp. 103-110). Muncie, IN: Ball State University.

Conducts a study of teachers' opinions and feelings toward a state mandated basic skills test in reading and also determines how teachers use the test results in reading instruction. Data were obtained by means of a questionnaire mailed to 353 teachers in one metropolitan district and by semistructured interviews with 15 of the 136 respondents. Teachers who taught in schools with at least a 25% minority enrollment thought the test less fair, too hard, and less important than did teachers who taught in schools with a smaller minority enrollment. Interview data revealed that older teachers thought the test could serve as a curriculum guide for younger teachers; younger teachers felt the test was a hindrance to creative teaching. Teachers felt that they had to teach to the test's objectives and that the results were used by principals to assess their teaching competence.

III. Sociology of reading

III-1 Role and use of mass media

Riffe, Daniel. (1990, Summer). Media roles and legislators' news media use. *Journalism Quarterly, 67,* 323-329.

Relates legislators' views of the role of news media (adversary or consensus agent) with their ratings of the usefulness of news media as informative sources. Questionnaires sent to 140 state senators and representatives were completed by 82 (59%). They rated on a five-interval scale the usefulness of newspapers, television, radio, and news media in general concerning constituent concerns, public opinion, activities at the statehouse, and job decisions. For each medium a principal components analysis produced a single factor, summarizing the source's performance on each information function and reflecting the contribution of each function to the source's overall ratings. Using the results of the six principal components analyses, four usefulness indexes (one for each medium) and two role indexes (adversary, consensus agent) were constructed. The adversary role was negatively related to three of the four usefulness indexes. The consensus agent index was significantly related with the usefulness of newspapers, television, and news media in general but not radio. Legislators believing the consensus model found the press more useful than those seeing the press as adversary.

Jacoby, Jacob, & Hoyer, Wayne D. (1990, June/July). The miscomprehension of mass-media advertising claims: A reanalysis of benchmark data. *Journal of Advertising Research, 30,* 9-16.

Concludes that it should not be assumed automatically that an advertisement is misleading because a viewer or reader does not understand a particular part. Data from two previous large-scale investigations of television and print advertisements were reanalyzed to answer a key question in deceptive or misleading advertising, namely, determining the level of miscomprehension associated with claims in advertising. The reanalysis showed that for TV advertising the median miscomprehension rate for individual meanings was 23.3%, and in magazine advertising, 11.8%. The ranges for the TV study were 8.6% to 25.2%; for the magazine study, 4.1% to 28.0%. Subjects had originally answered six true/false items for each medium.

Markham, Paul L. (1989, October). The effects of captioned television videotapes on the listening comprehension of beginning, intermediate, and advanced ESL students. *Educational Technology, 29,* 38-41.

Examines the effects of captioned television videotapes in beginning, intermediate, and advanced ESL students' listening comprehension. The 76 subjects viewed two videotapes with or without captions and were tested on two multiple-choice reading comprehension tests. Two 3×2 ANOVA procedures were used to analyze the data. All three groups of subjects demonstrated better comprehension with captioned conditions for both passages.

Hong, Junhao, & Cuthbert, Marlene. (1991). Media reform in China since 1978: Background factors, problems, and future trends. *Gazette, 47,* 141-158.

Examines the relation between media reform and economic and political reforms in China since 1978. Using primary sources and prior experience in a Shanghai television station, the authors analyze factors generating the changes, problems caused by the changes, and the trends of the changes in the 1990s. Media change has been an important step in the development of the country's openness and public policy making. It was concluded that media reform will continue in the 1990s but at a slower pace and will be focused more on practice than on systems or policies.

Griffin, Robert J. (1990, Autumn). Energy in the eighties: Education, communication, and the knowledge gap. *Journalism Quarterly, 67,* 554-566.

Relates education to gain in energy issue knowledge and to the processing of energy messages in newspapers and on television. In a four-part panel study, conducted from 1981 to 1986, 813 subjects were interviewed. They were questioned about mass media use, their educational level, and other demographic characteristics. They responded to the Energy Issue Knowledge test which consisted of five to seven items regarding energy as reported in the mass media. Partial correlation, hierarchical multiple regression, cross-sectional (within-years) analysis, autocorrelation, and longitudinal regression were used to test the data. The more highly educated subjects gained knowledge about energy issues at a faster rate than did the less educated, producing a knowledge gap between 1981 and 1982. Over the remaining years this gap appears to have diminished. A relation was found between education and energy issues especially among the more educated readers of newspaper energy stories. This relation was not found for television stories. For the less educated, the relation for both newspaper and television information with energy knowledge was nonsignificant.

III-2 Content analysis of printed materials

Rogan, John M. (1991, January/February). Curriculum texts: The portrayal of the field, part 2. *Journal of Curriculum Studies, 23,* 55-70.

Focuses on the interrelationships of published research and curriculum textbooks. The articles derived from curriculum and other journals were counted in each of nine curriculum texts. The number of citations to articles in curriculum journals ranged from 1 to 28; for articles in other journals, 20 to 173. It was concluded that research reported in curriculum journals is not being systematically incorporated into textbooks. No one study was cited in all nine texts or even five of the nine. Problem areas in curriculum purposes and curriculum field are cited almost equally in texts and research studies. Methodologies used in articles are empirical, conceptual, and rhetorical; conceptual methodologies, which emphasize the theoretical rather than the practical, are cited in texts. The interaction between the curriculum texts and their intended audiences was discussed.

VAUGHN-ROBERSON, COURTNEY; TOMPKINS, GAIL E.; HITCHCOCK, MARY E.; & OLDHAM, MARY. (1989, Fall/Winter). Sexism in basal readers: An analysis of male main characters. *Journal of Research in Childhood Education, 4*, 62-68.

Examines six basal reading textbooks—first, second, fifth, and sixth grades—to determine how male main characters are presented. The Bem Sex-Role Inventory was used as a checklist from which composites of story characters' personalities were built. Male positive, male negative, female positive, and female negative traits were tabulated for both favorably and unfavorably depicted main male characters in 165 stories. Total frequencies, mean frequencies, and mean percentages were computed. Although classically positive female traits appeared in the male characters, the overall composite and (to a lesser degree) the depiction of individual characters were dominated by male-linked virtues, such as independence and a willingness to take risks.

PURCELL, PIPER, & STEWART, LARA. (1990, February). Dick and Jane in 1989. *Sex Roles, 22*, 177-185.

Analyzes 1,883 stories in 62 readers, published by four companies, for the portrayal of the two sexes and compares the results with a 1972 study. Although there continue to be differences in the way in which they are portrayed, these differences are not so pronounced as they were in the earlier study. There were more stories about women, more about women doing various things, and a larger percentage of informational and gender neutral stories than in the 1972 study. Males were pictured more often than females and were shown in a larger number of careers than were females.

NEATE, BOBBIE. (1990, November). The diversity of registers found in primary children's information books. *Reading, 24*, 185-191.

Analyzes extracts of informative text from 282 books used by most primary schools in England for the type of language (called register) used. The results of the survey showed that a number of specialist terms were used, that the language varied greatly, and that readers experience diversity of language from a very early age. The kinds of anomalous texts found included the false narrative (getting children interested at first and then slipping in facts), abrupt change of language, questions without answers, and implicit references to illustrations within the text. Young readers may not read informative texts well because the language of books is confusing, and children have not been taught how to cope with the way books have been written.

BROPHY, JERE; MCMAHON, SUSAN; & PRAWAT, RICHARD. (1991, March). Elementary social studies series: Critique of a representative example by six experts. *Social Education, 55*, 155-160.

Analyzes the books in a social science series, grades 1-6 (published by one company) for content and for the manner in which it was presented. Three university professors and three elementary teachers critiqued the books and accompanying worksheets, tests, questions, and activities suggested in the manual. Organization of the content, treatment of key concepts, critical thinking, and curriculum strands were considered. After the analyses were made, each expert was interviewed; transcripts were analyzed to identify points of agreement and disagreement. Although the panelists found the series to be attractive in several ways, they were more critical than appreciative of the books. Among their many complaints were: little coverage of cultures other than those in the United States, too much content in the middle grades and too little in the primary grades, too much breadth with insufficient depth, and skills taught in isolation rather than related to the units. Suggestions were made for the improvement of social studies textbooks.

Bazler, Judith A., & Simonis, Doris A. (1991, April). Are high school chemistry textbooks gender fair? *Journal of Research in Science Teaching, 28,* 353-362.

Compares two editions (1970/1973 and current) of seven high school chemistry textbooks for gender fairness in illustrations and in concrete analogies. Frequencies of identified and unidentified male and female figures depicted in photos or drawings, verbal analogies in the first half of each book, and classifications of female/male interests were recorded. Data were analyzed by chi-square tests for independence, chi-square goodness-of-fit tests, and Kruskal's *T*. In the texts taken as a whole there were significant differences between relative frequencies of named and unnamed illustrations of men and women, but no significant difference between relative frequencies of illustrations of boys and girls. Only one text achieved balance between male and female illustrations; other texts favored pictures of males. Most current texts included more analogies than earlier ones; the former favored images reflecting female interests.

Lloyd, Carol V. (1990, December). The elaboration of concepts in three biology textbooks: Facilitating student learning. *Journal of Research in Science Teaching, 27,* 1019-1032.

Describes how three biology textbooks present content related to photosynthesis through the construct of elaboration (embellishment of ideas). Textbooks were selected for student differences (average ability but below grade level success, below grade level and average ability or special education, and high school students at all levels). The two procedures used to evaluate the texts were a concept analysis and a description of elaborations used. The textbook designed for the lowest level student presented the least amount of information and showed lack of depth in coverage. The other two textbooks presented a similar amount of ideas but used different organizational plans and choice of ideas to elaborate. Other variables investigated were misinformation and nature of information contained in the elaborations.

Glenn, William H. (1990, January). Treatment of selected concepts of organic evolution and the history of life on earth in three series of high school earth science textbooks, 1960-1989. *Science Education, 74,* 37-52.

Investigates changes in the extent and quality of treatment of evolution in different editions of three earth science textbooks published from the 1960s to the 1980s. Each was examined for three topics (evolution, natural selection, and adaptation) and for the name *Charles Darwin.* The findings for each text were reported separately. All included coverage of the geologic time scale, methods used to determine age sequences, descriptions of life on earth showing the progression of life from simple to complex, and all deemphasized the origin and evolution of man. In the 1980 editions, all three texts provided less space to the history of life on earth than they did in the 1960s. Those published in the 1970s and the early 1980s carry a statement that references to evolution are considered theory rather than verified fact; this statement did not appear in books published later. Only one text mentions Darwin's name in all three editions.

Bridges, Anne E. (1989, Fall). Scholarly reviews of U.S. history books. *Book Research Quarterly, 5,* 66-74.

Analyzes reviews of U.S. history books found in six scholarly journals in 1985, 1986, and 1987. The reviews were examined for publishers, prices, length, affiliations of the reviewers, timeliness, and coverage. The database contained 3,229 reviews, 1,885 being unique titles. Most titles were published by college, university, and major trade presses; were written by historians at colleges and universities; and were published a year or two after the book's publication. No one journal reviewed even a majority of the books published in this field. It was concluded that these reviews are in some ways inadequate for historians who rely on them.

LORENTZEN, SVEIN. (1990). Patriotism as part of citizenship education: A review of Norwegian history textbooks throughout the nineteenth and twentieth centuries. *Scandinavian Journal of Educational Research, 34,* 103-110.

Analyzes 50 elementary history textbooks, on the theme of patriotism, published in Norway between 1914 and the present. The books were analyzed to see how Norway was presented to the pupils and to see what changes had been made in the presentation. In the middle of the nineteenth century, patriotism was shown by a national identity created by a new Constitution and by national unity that strengthened the Constitution in the Swedish union. In the late nineteenth century, patriotism was combined with political liberalism, predominantly sympathetic to a new liberal party. Compared to previous years, the patriotic dimension was weakened due to changes in the discipline of history. In the revised 1990 National Curriculum, the national dimension has been strengthened without weakening global or local perspectives.

RAMIREZ, ARNULFO G., & HALL, JOAN KELLY. (1990, Spring). Language and culture in secondary level Spanish textbooks. *Modern Language Journal, 74,* 48-65.

Analyzes content of parts of five Spanish series with respect to sociocultural, linguistic, and curricular design perspectives. The total number of references to Spanish-speaking countries/groups through pictorial and written modalities was tabulated, and the three perspectives provided different kinds of information. The sociocultural framework included an examination of the countries represented and highlights of aspects of society (social, individual, religious, political, environmental, artistic) and how cultural information was presented. Sociolinguistics focused on uses of language across levels and texts. Content in specific lessons was classified according to a number of pedagogical concerns for the curricular perspective. Many findings were given, as Mexico and Spain were represented more frequently than any other country. Photographs were the most often used visual modality. Activities associated with the social sphere accounted for 34% of the topics presented. Content not included was delineated.

BOS, WILFRIED. (1990, May). On mother tongue teaching material of ethnic minorities: A comparative analysis. *Research in Education, 43,* 45-62.

Analyzes a sample of a 12-volume textbook (*Chinese for Primary Schools: New Edition for America*, Taiwan) and a sample of a set of 12 textbooks and 12 exercise books (*Elementary Chinese*, People's Republic of China), and compares the content of the two sets for students in China and in the U.S. Both originally had been intended for use by Chinese students in America. German translations, not the original Chinese texts, were used in this analysis. The units of analysis were the lessons and their exercise sections. Content was categorized into 12 different areas. The results showed that the textbooks prepared the students well to communicate and interact within their culture but failed to help them live as a minority in a different society.

KELLER, CLAYTON E.; HALLAHAN, DANIEL P.; MCSHANE, EDWARD A.; CROWLEY, E. PAULA; & BLANDFORD, BARBARA J. (1990, Fall). The coverage of persons with disabilities in American newspapers. *Journal of Special Education, 24,* 271-282.

Analyzes 428 articles from 12 newspapers published in 1987 for frequency and types of articles on disabilities. Each disability was classified by (1) the major or minor focus of the article, (2) type of disability, (3) type of article, (4) impact of the disability, and (5) possibilities for improvement. Of the 696 references found, 438 (63%) dealt with the disabling condition as the major focus of the article. They tended to appear in feature news rather than hard news and to be about people with physical disabilities, mental retardation, or with generic labels such as "handicapped." When impacts on the person were mentioned, they were usually negative. Most articles did not include the possibility of improvement.

MARTINDALE, CAROLYN. (1990, Summer). Coverage of black Americans in four major newspapers, 1950-1989. *Newspaper Research Journal, 11*, 96-112.

Analyzes contents of four U.S. newspapers for the amount and kind of coverage given to African-Americans and compares the results with those in an earlier study. Six issues a year of each newspaper from 1981, 1983, 1985, 1987, and 1989 were scanned for pertinent reports, resulting in 1,174 items. Each was measured and coded into 15 subcategories of three main headings: stereotypic, everyday life, and civil rights coverage. Coverage given to African-Americans increased in the 1980s over the 1970s, but these items covered less than 5% of the total newsholes. Coverage of everyday activities increased while coverage of civil rights decreased to its lowest point. Content remained highly stereotypical with little attempt made to find causes for different problems or events.

ZINKHAN, GEORGE M.; QUALLS, WILLIAM J.; & BISWAS, ABHIJIT. (1990, Autumn). The use of blacks in magazine and television advertising: 1946 to 1986. *Journalism Quarterly, 67*, 547-553.

Investigates the representation of blacks in magazine advertising (1946-1986) and television advertising (1967-1986). Secondary analysis of several content analyses studies was combined with original data from five magazines and from prime time television advertising on three networks. Black representation in both magazine and television advertising has increased significantly over time. Significant media differences were found with more blacks appearing in television than in magazine ads. Data from television advertising indicate that the black presence sometimes approaches the percentage of blacks in the population.

THIBODEAU, RUTH. (1989, Winter). From racism to tokenism: The changing face of blacks in *New Yorker* cartoons. *Public Opinion Quarterly, 53*, 482-494.

Analyzes cartoons in the *New Yorker* from 1946 to 1987 to determine how often blacks appeared as characters and how styles of characterization changed over time. In 2,193 issues of *New Yorker*, cartoons with blacks were counted, categorized as containing blacks, with active vs. passive portrayals (stereotyped role, token role, race-related humor, and non-race-related theme). Data were grouped into three 10-year periods and one 12-year period. Black characters depicted were extremely rare throughout the 42 years and decreased with the passage of time. In the earliest period blacks were shown in stereotypical occupational roles; in the late 1960s and early 1970s the cartoons were dominated by racial themes; in the last period blacks appeared in token roles.

BUCHHOLZ, MICHAEL. (1990, Autumn). Racial references in the Texas press, 1813-1836. *Journalism Quarterly, 67*, 586-591.

Examines 124 surviving issues of 10 English language Texas newspapers published between 1813 and 1816 for attitudes toward Mexicans. Of the 813 articles bearing on local matters, 66 included attitudes toward the Mexican people and government. The references were found to be favorable or neutral until 1834, the beginning of hostilities that led to Texas' independence. It was concluded that the attitudes of Texas' colonists toward race, culture, and politics related to Mexico shifted with the fortunes of the revolution.

Courtenay, Bradley C. (1990, Winter). An analysis of adult education administration literature, 1936-1989. *Adult Education Quarterly, 40*, 63-77.

Analyzes 75 references (28 books, 43 articles and monographs, and 4 chapters) concerned with adult education administration. A slightly revised form of a literature analytical framework was the basis of the analysis. The references were categorized into three descriptive and nine evaluative dimensions and examined for the extent to which the functions were addressed. Differences were found in the settings, sources utilized, and extent of coverage given to the administrative functions. The findings showed a lack of cross referencing, insufficient cumulative development of information, nonadult education sources, omissions of significant models and theories, service-oriented instead of product-driven adult organizations, literature heavily weighted toward practical application, a tendency to discuss program levels together, and an absence of specific proficiencies needed by adult education administrators.

Bottigheimer, Ruth B. (1987). *Grimms' bad girls & bold boys: The moral & social vision of the tales.* New Haven, CT: Yale University Press.

Conducts a content analysis of the 211 entries found in Grimms' Tales. In particular, the focus is on the narrative and textual context in an attempt to identify coherent patterns and to ascertain the premises on which the collection rests. The author stresses the importance of viewing individual motifs within the context of the tales in which they are found and interpreting an individual tale within the body of the complete collection. An ambiguity or tension between the surface presentation of such subjects as language use, Jews, money, women, and religious values can be found in contrast to the language, association, and imagery with which they are communicated, indicating an ambivalence about the subjects. For example, women's power over nature as it appears in the tales is balanced by nature's and society's power over women. The textual tensions can be understood by viewing them in the light of at least three contending traditions in the tales. The first is that of an enlightened educated tradition; the second is a rude, unlettered folk tradition; and the third is a two-pronged tradition coming from the Grimms themselves – the continuing influx of texts from earlier ages on the one hand, and story collections of the sixteenth, seventeenth, and eighteenth centuries on the other hand. The codification of the moral and social values to be found in the tales is felt to point to a politically activated moral upheaval of importance for nineteenth century Germany.

Redd, Teresa M. (1991, April). The voice of *Time*: The style of narration in a newsmagazine. *Written Communication, 8*, 240-258.

Bases the analysis of the style of narration in *Time* upon Gibson's Style Machine from an essay on modern American prose style. The sample consisted of 30 articles in the Nation and World sections written by 30 writers appearing in *Time* between January 4 and June 6, 1988. The articles were analyzed in six categories: word size and familiarity, subject words and pronouns, verbs, modifiers, sentence length and subordination, and other effects of tone. One purpose of the analysis was to show how *Time*'s many writers created a consistent and distinctive voice known as "Timestyle." The analysis showed that *Time*'s narrative voice is a powerful one as the narrator has the power to put readers at ease, engage their feelings, secure their trust, and divert their attention.

Hynds, Ernest C. (1990, Summer). Changes in editorials: A study of three newspapers, 1955-1985. *Journalism Quarterly, 67*, 302-312.

Analyzes editorials in three metropolitan newspapers for 1955, 1965, 1975, and 1985 to determine changes in geographical emphasis, subject matter, and presentation. All months of the year and all days of the week are represented in the sample. Results are given for each paper concerning subject matter, types of leads, types of endings, approaches used in argumentation, and writing devices used. All three ran more editorials on national/international topics than on state/local topics; made greater use of argumentation, explanation, and description; reduced the average number of editorials; published more forceful editorials; refrained from using the editorial *we*; and improved their appearances. Data support the contention that newspaper editorials have improved over the years.

Stout, Patricia A., & Moon, Young Sook. (1990, Autumn). Use of endorsers in magazine advertisements. *Journalism Quarterly, 67,* 536-546.

Analyzes 655 advertisements from four magazines, 1980 and 1986, for endorsers, information included, and products advertised. Products were classified in nine categories. Information was measured using 14 cues. More than half (56.6%) of the ads did not use endorsers. The most frequent endorsers were celebrities (51%), typical consumers (24%), top corporate officials (14%), and experts (11%). The use of celebrity endorsers increased between the two time periods. Ads featuring an endorser provided significantly less information content than ads with no endorsers. Regardless of the type of endorser the information content remained equal. Celebrities most often endorsed personal care or apparel products.

Shoar-Ghaffari, Pirouz. (1991). News of the outside world in the postrevolutionary Iranian press. *Gazette, 47,* 1-18.

Examines the coverage of the outside world by Iran's principal daily, *Ettelaat*, from 1979 through 1988. For each of the 10 years a composite-week sample was drawn, which produced a total of 60 issues. The sample produced 1,081 foreign news items for the 10-year period. Six hypotheses were tested concerning the reliance of the Iranian media on Western news agencies, the extent and emphasis of international coverage, and the treatment of news about superpowers. The results of the content analysis showed that the four major Western news agencies supplied 61% of all foreign stories and 67.6% of hard news for this newspaper. The study confirmed the hypothesis regarding the emphasis placed on news of the Arab and Islamic world, the opposition to superpower influence around the world, and a negative treatment of Western countries. It was concluded that the paper depended on Western news media for foreign news, but portrayed the outside world in its own image.

Rystrom, Kenneth. (1990, Spring). Endorsing "Style-of-Life" issues: Virginia editors respond to two gambling proposals. *Newspaper Research Journal, 11,* 74-84.

Compares newspaper editorial endorsements in referendum elections of 1987 and 1988 in regard to gambling propositions. In 1987 the issue was a state-sponsored lottery; in 1988, parimutuel betting at horse racing tracks. The 88 newspapers responding to inquiries for both years were divided into four groups, based on circulation. Individual editorials were examined for the presence of economic, social, and moral arguments used for and against the referenda. In 1987 editorial stands on the issue were taken by 47% of the papers; in 1988, by 42%. Since the basic issue of gambling was settled in the 1987 election, it was concluded that fewer editors editorialized on the issue the next year. A shift from value to causal claims was noted in the two years. Editors tended to drop moral concerns expressed earlier for economic and social issues. Differences were noted among the different groups of newspapers.

Peh, Diana, & Melkote, Srinivas R. (1991). Bias in newspaper reporting: A content analysis of the coverage of Korean Airlines and Iran Airbus shootings in the U.S. elite press. *Gazette, 47,* 59-78.

Compares the coverage in three large U.S. newspapers of two similar events: the shooting of the Korean Airliner (KAL) by the Soviets in 1983 and the shooting of the Iran Airbus by the Americans in 1988. Articles and sentences in the 10 days following each event were content analyzed for extent of coverage, reporting style, slant and degree of imbalance

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in reporting, and the identity of primary news sources. Reporting style and slant were examined concerning five objects: the two shootings, U.S.S.R., U.S.A., and Iran. The Coefficient of Imbalance was used to measure the degree of imbalance toward each of the foregoing factors. The result showed that the two events were reported differently. The KAL incident received more than double the coverage of the other incident. The act of shooting the KAL and the Soviets were portrayed negatively; their counterparts in the Iran Airbus incident were depicted positively. A higher proportion of inferences and judgments were made in the KAL situation than in the coverage of the Iran shooting. It was concluded that bias was present in the press coverage of these two incidents.

III-3 Readability and legibility

CHALL, JEANNE S., & CONARD, SUE S. (1991). *Should textbooks challenge students? The case for easier or harder textbooks.* New York: Teachers College Press.

Presents research findings on the practices and preferences of teachers, students, and educational publishers concerning factors that contribute to the ease or difficulty of understanding and learning from textbooks. Data collection included a historical review of research on text difficulty (chapter 2); sampling surveys of 34 publishers' (chapter 3) and 225 teachers' (chapter 4) views about suitable text reading levels; comparative analyses of 67 content textbooks (chapter 5), 34 teachers' manuals, and 35 reading methods textbooks (chapter 6); observations of how textbooks were used in 45 classrooms (chapter 7); and comprehension assessment of and interviews with 213 students (chapter 8). The findings are summarized and discussed in separate chapters.

WHITE, MARILYN DOMAS. (1990, October). The readability of children's reference materials. *Library Quarterly, 60*, 300-319.

Assesses the readability of reference books recommended for children (three children's encyclopedias, three adult encyclopedias, and selected subject reference books). Six categories of topics, divided into 14 subject areas, were analyzed by the Flesch-Kincaid reading formula and the Bovair and Kieras propositional analysis, resulting in a measure of the idea density level. About 250 words were randomly selected from 140 different articles. The results of the Wilcoxon Matched-Pairs Signal-Ranks Test showed statistically significant differences between children's encyclopedias and both adult encyclopedias and subject reference books, but not between the latter two which resemble each other in density of ideas. About 25% of the articles in the reference books were written at grade levels 5 through 8 and none below grade 5.

SCHNEIDER, DAVID E. (1991, April). An analysis of readability levels of contemporary textbooks that employ a hybrid approach to the basic communication course. *Communication Education, 40*, 165-171.

Determines the readability of 24 contemporary textbooks employing a hybrid approach (defined with three general topics: interpersonal communication, small group communication, public speaking) to the basic college speech communication course. The Fog index was applied to 25 reading samples in each book. For all books combined, the range was 4.11 grade levels; standard deviation, 1.01 grade levels; mean, 13.32 grade levels. The actual grade level range in readability was 10.62 to 14.73. The mean number of difficult words per 100 for all textbooks combined was 15.81 (SD, 2.01); the mean sentence length, 17.49 (SD, 1.64).

ANDERSON, O. ROGER, & BOTTICELLI, STEVEN. (1990, April). Quantitative analysis of content organization in some biology texts varying in textual composition. *Science Education, 74*, 167-182.

Employs a quantitative technique to assess thematics and sequential organization of textual material presented in four high school and college biology textbooks for the purpose of determining if the coefficients employed provide evidence that is congruent with the subjective evaluations from book reviewers. Twelve segments on the same topic in each book were selected for analysis. The quantitative technique employed, the mean progression density coefficient, was compared across texts using ANOVA procedures. Results indicated increasing values across the four textbooks that corresponded to the increasing difficulty for the books as rated by reviewers. A relatively uniform organization was found among books, suggesting similar structural themes and levels of organization on implicit content dimensions. There was a wide variation on explicit dimensions. The authors state that the methodology employed in analyzing content may be helpful, particularly as an aid to improving comprehension.

CHIMOMBO, MOIRA. (1989). Readability of subject texts: Implications for ESL teaching in Africa. *English for Specific Purposes, 8*, 255-264.

Focuses on the problems faced when teaching ESL students in Malawi, who studied through the medium of English. The first mismatch results from the type of reading instruction in which skills essential for coping in other subjects are not taught. The type of reading comprehension in English courses is different from that in the texts in other subjects. The results of different measures of readability (Fry, Smog, cloze) showed a lack of agreement. It appeared that the English text was relatively easy, but other texts showed enormous difficulty. Examinations given at the end of grades 10 and 12 were defective because they did not reflect the kinds of comprehension required in subjects, and questions asked focused on vocabulary and minor parts of the passages. Various related issues were discussed.

MCADAMS, KATHERINE C. (1990, Summer). Power prose: The syntax of presidential news. *Journalism Quarterly, 67*, 313-322.

Compares news coverage of Presidents Carter and Reagan in times of crises (capturing of U.S. hostages in Iran and revelation of arms sales to Iran). Content analysis of two metropolitan newspapers was conducted before and after each crisis. The sampling of front-page news stories every third day for three months yielded 127 items, 51 about Carter and 76 about Reagan. Each clause in the first two paragraphs was coded for subject, object, verb type, voice, agent of action, and negative auxiliaries. The Fog index was used to determine readability. Two-way analysis was used to compare both time periods (pre- and postcrises) and presidents. Chi-square and differences of proportion tests were used to test for significant differences among frequencies and percentages. Lead lengths far exceeded limits set by journalism texts and readability experts. Leads about Reagan were lower than those for Carter. Fog readability indexes before and after the crises remained about the same between the time periods of coverage of the two presidents, but the Reagan coverage was significantly less readable than the Carter coverage. Some sentences were almost paragraph length. The president is the subject of almost one-fourth of clauses, the latter being in active voice.

HARTLEY, JAMES. (1990). Textbook design: Current status and future directions. *International Journal of Educational Research, 14*, 533-541.

Reviews research related to typographic designs of printed texts. Specific topics reviewed include page size and spacing, positioning and spacing of text, typefaces and type sizes, emphasis in text, access structures, and the design of supportive illustrative materials. Areas for further research in text design, based on research already completed, are suggested in the second part of the report.

III-4 Reading interests, preferences, habits

RACHAL, JOHN R.; LEONARD, REX; & JACKSON, LINDA S. (1991, Spring). Reading habits of students in adult basic education and high school equivalency programs. *Reading Research and Instruction, 30,* 76-88.

Administers questionnaires concerning reading habits to 217 ABE and GED students in two junior colleges. The sample was studied as a whole and by the demographic variables of race, gender, age, and reading level. Forty-five percent read daily with 42% reading approximately one or two hours daily. Most reading was educational; the least was job-related and recreational. Most had read a book in the past six months, but they generally were not book owners. Race, age, and gender related to some of the reading practices of those with less than twelfth grade reading achievement. Most subscribed to or regularly bought a newspaper or magazine. A plurality (44%) thought they were good readers. Responses to several questions varied by race, age, and reading scores.

SMITH, M. CECIL. (1990, Summer). The relationship of adults' reading attitude to actual reading behavior. *Reading Improvement, 27,* 116-121.

Studies the relation of reading attitude and reading behavior of 84 adult volunteers: 31 males, 53 females, ages 35-44. All completed a reading attitude questionnaire containing 40 statements. Scores on it represented either a positive or negative attitude toward reading. They also completed a questionnaire concerned with daily reading behaviors. An abbreviated form of the NDRT was administered to 56 subjects. The sample was divided into four groups: high positive, positive, low negative, and negative. Chi square was used to determine differences among the groups. Attitude toward reading was found to bear an important relation to daily reading behavior. Subjects with positive attitudes toward reading performed better on a standardized reading test, read more often, and read a wider variety of materials than those with negative attitudes.

III-5 Readership

COBB-WOLGREN, CATHY J. (1990, Summer). Why teenagers do not "Read all about it." *Journalism Quarterly, 67,* 340-347.

Investigates reasons teenagers do not read newspapers. Of the 1,355 students completing a questionnaire concerning newspaper reading, 269 (20%) were classified as newspaper nonreaders. Both readers and nonreaders overwhelmingly chose television as the medium to find out about news. Inquiry was made concerning reasons teenagers do not read newspapers. The results, based upon regression analysis, showed the most important predictor of nonreadership was the perception of time and effort needed to read the newspaper with nonreaders stating they have neither. They were less likely to read magazines. Their home environment was not conducive to newspaper reading as newspapers were less available and family discussions about news did not take place.

BARROW, LLOYD H. (1989, September). Professional education reading patterns of Presidential Science Honorees. *Journal of Research in Science Teaching, 26,* 519-532.

Surveys 422 Presidential Science Honorees to ascertain the science education and general education journals and indexes preservice secondary science teachers should be familiar with in their preparation program. In the first survey (53.9% return rate) data for the indexes were too limited for further analysis. The results of the second survey (72.5% return rate) showed that the most frequently read journals tended to be of a practical orientation. The most frequently read science journal was *The Science Teacher* (60%), followed by *National Geographic, Discover, Science News, American Biology Teacher*, and *Chem Matters*. The general education journal reading patterns of these subjects were very limited, with *Today's Education* and *Phi Delta Kappan* being the journals acknowledged by most subjects.

PASTERNACK, STEVE, & UTT, SANDRA H. (1990, Spring). Reader use & understanding of newspaper infographics. *Newspaper Research Journal, 11*, 28-41.

Asks if readers attend to informational graphics (charts, cartoons, graphs) before or after they read headlines and body text in newspapers and the reason for their choice. The 70 journalism undergraduate students in two universities were shown two packages, each consisting of a news article, headline, and a graphic device, one being dominant and the other nondominant, and answered questions on each. Seventy percent of subjects read the large, dominant graphic before they read the headline/text while the smaller graphic was generally read last. The large graphic was above the headline/text; the smaller one was imbedded in the body text. These readers turned to graphics for both content-base and appearance-related reasons.

III-6 Library usage and services

WILLIAMS, SAMMY JO, & LA GRANGE, JOHANNE. (1989, Spring/Fall). Resource sharing between school and public libraries in Texas. *CSCIL: Current Studies in Librarianship, 13*, 28-34.

Studies resource sharing between school and public libraries in Central Texas. The 20 questionnaires mailed to these libraries produced a return of 16 (80%), with the higher percentage of public libraries responding. No clear definition of networking was found. Cooperation between the two types of libraries was often little more than the public library fulfilling its traditional role. Cooperative agreements were usually informal. Funding, time, attitude, and access were the major obstacles to cooperation.

MOORE, PENELOPE A., & ST. GEORGE, ALISON. (1991, Spring). Children as information seekers: The cognitive demands of books and library systems. *School Library Media Quarterly, 19*, 161-168.

Describes the information retrieval process used by 23 New Zealand sixth graders and explores the cognitive difficulties they encountered. Think-aloud and retrospective interviews were recorded on video and audiotapes and analyzed with respect to the library system, books, and children's perceptions of them. Many children did not have enough knowledge of the relation between catalog cards, books, and shelving systems to use the Dewey system adequately. The study revealed a wide range of interpretations of card catalog information, problems in book location, and difficulties inherent in the books themselves.

SQUIRRELL, GILLIAN. (1989, Autumn). Libraries and reading – an absent motif in initial training? *Education Libraries Journal, 32*, 17-24.

Examines the role of reading and libraries among postgraduate Certification in Education students in six British universities. Four students from each area (totaling 96) were interviewed twice; 16 tutors, 5 course directors, education librarians, and staff responsible for curriculum were interviewed once each, to obtain views on the importance of reading and library use in initial training and the effectiveness of students' training in the field. Attitudes varied, but many students undervalued the library and its resources. The majority of tutors proved to be poor role models as readers/library users. Few of the students had considered ways in which they could instruct future pupils in the use of the library. The investigators concluded that this research had rediscovered the wheel with which education librarians were already familiar.

ANDREWS, JUDITH. (1991). An exploration of students' library use problems. *Library Review, 40*, 5-14.

Interviews 29 first-year college students concerning problems they experience in using a college library. The crucial incident technique was used; subjects were asked to recount a specific event to illustrate behaviors called *critical incidents*. Prompts in the form of questions beginning with "Can you remember a time...?" were used. The interviews yielded a wide range of problems: use of catalog, especially microfiche; locating books; floor layout; competition for a limited number of copies; lack of sufficient information about use of the library; students' fears about and insecurity in using the library; and reluctance to ask for help. Questions, based on the findings from interviews, were asked of three groups of second-year library students. In many ways, their answers paralleled the interview data, thus validating the research findings.

ALLEN, BRYCE, & WILKINSON, MARGARET ANN. (1990, April). What do our "senior citizens" want from public libraries? *Canadian Library Journal, 47*, 105-110.

Questions 345 public library users in two library systems in Ontario concerning services offered to senior citizens. Subjects completed a survey questionnaire in which they defined the population segment called senior citizens and indicated whether they would attend library programs for seniors. The results showed that most supported differential services for seniors (such as large print books) but were ambivalent about targeting services exclusively for them. Current promotional means produce the same levels of awareness and use of public library programs among seniors and younger patrons. It was concluded that library workers can count on a strong base of public support.

LAND, ANTHONY. (1990, February). Consumer attitudes to public libraries: The *Which?* report. *Library Association Record, 92*, 105-107.

Reports the attitudes of 2,200 subscribers to *Which?* concerning public libraries. Of these, 1,650 households use public libraries. Two-thirds use the library at least once a month, with adults and children following similar patterns of use. A majority of both adults and children rated the local libraries as being good or excellent. High ratings were given for the helpfulness of the staff, conditions of lending books, and number of lending books stocked. Less than satisfactory ratings were given for the range/updatedness of reference books and number of new books purchased.

GRANHEIM, ELSE. (1990). The library user survey for 1988: Does it tell us anything new? *Scandinavian Public Library Quarterly, 23*, 7-11.

Surveys the use of and attitudes toward public libraries among library users in Norway. In 1988 the Norwegian State Directorate conducted an interview survey to determine if there had been a change in people's attitudes toward libraries since a 1978 survey. It was found that far more people visited public libraries in 1988 than in 1978, that more women than men visit the library and other cultural facilities except the cinema and sports events, that 75% of the children visited a public library (average number of 12 visits per year), that women borrow more fiction than men, that men read more newspapers and journals (including comics and weekly magazines), and that few library users were critical of the services. Over 50% believed good public libraries were important.

GARCHA, RAJINDER, & GATTEN, JEFFREY N. (1990). Preliminary observations of non-traditional university students' library skills. *Library Review, 39*(1), 13-20.

Compares the library skills and library attitudes of traditional college freshmen (ages 17-22) and nontraditional college freshmen (older than 22). Data derived from questionnaires were collected from 180 traditional students and 21 nontraditional students. The results showed that traditional students were more familiar with the educational environment as they were recent high school graduates, while nontraditional students came to college approximately 10 years after graduating from high school. Traditional students were more likely than nontraditional students to have had previous experience in using library resources and seemed to utilize libraries easily. Both groups had positive attitudes toward developing library skills further through formal instruction. The study revealed that formal library instruction designed for nontraditional students needs to account for an individual's lack of academic routine, lack of a full-time commitment to academic objectives, and lack of library experience.

GROSSER, KERRY, & DODDRELL, SUSAN (1990, February). External students and public libraries: Public librarians' perspectives. *Australian Library Journal, 39*, 51-63.

Reports the findings of a 1987-1988 survey of 44 chief librarians from Victoria, Australia, public libraries on their attitudes and policies of serving external students. It was found that public libraries emphasized their recreational role more than their educational one in the community, were prepared to serve external students on the same basis as all other users, were willing to accept some input from other institutions to improve services to external students, were reluctant to provide these students with special services not traditionally offered by public libraries, and were opposed to discrimination in service provision on the basis of user category.

BUSTION, MARIFRAN, & TREADWELL, JANE. (1990, March). Reported relative value of journals versus use: A comparison. *College & Research Libraries, 51*, 142-151.

Conducts a university library use study to determine if patterns of use of periodicals coincided with earlier evaluations of these periodicals made by faculty. They had determined if a journal was essential or not related to instruction and research. Subscriptions to the ones considered unrelated were cancelled. Reshelving counts of all cancelled periodicals and of a random sample of current periodical titles rated essential were compared. Bound periodicals were not included in the study. The extent of use of the periodicals was rated as low (1 to 15 uses), medium (16 to 75 uses), and high (more than 75 uses). Of the previously cancelled periodicals, 89% (482) received either no or low use; 10%, medium; less than 1%, high. It was concluded that, in general, the cancellation decisions were reaffirmed.

KNUTSON, GUNNAR. (1991, January). Subject enhancement: Report on an experiment. *College & Research Libraries, 51*, 65-79.

Inquires if changes in subject cataloging policy will improve the likelihood that some unused or little used materials in research collections will circulate and if there is a particular type of improvement that will be most suitable for this purpose. Subjects and content notes were added to online catalog records for a group of uncirculated social science essay collections. Circulation was monitored for a year. A control group and a third group with added content notes also were monitored. The results showed an improvement in use for the subject-enhanced titles, but not for titles with added content notes. Browsing did not have any consistent effect on book collection.

YITZHAKI, MOSHE, & SHOHAM, SNUNITH. (1990, December). An analysis of secondary school libraries in Israel. *International Library Review, 22*, 239-249.

Conducts a secondary school survey in Israel concerning library sources and use. Data were derived from librarians in 342 schools and from the Ministry of Education and Culture internal reports. Significant relations were found when type of community was considered with collection size, number of volumes purchased the previous year, number of volumes and titles per student, number of reference books, number of hours libraries are open, and staff working hours. School libraries in the rural sector surpassed those in other communities. Multitrack schools (most found in kibbutzim) were first in all inputs measured per student, with agricultural schools being second. Overall, the use of secondary school libraries in Israel was not high.

KESKITALO, PAIVI. Reading of newspapers and magazines: A recent research project at Vantaa and Espoo public libraries. *Scandinavian Public Library Quarterly, 23*, 21-27.

Tests the use of a questionnaire to determine the popularity of newspapers and magazines and the libraries' collection of them in Vantaa (n=123) and Tapiola (n=644), Finland. In both places, newspapers and magazines were read diligently. Approximately three-fourths of the titles in both places were in active use. Most popular were newspapers, followed by magazines on technology and living (house and garden). Materials in foreign languages were read more or less the same in both places. The least read were periodicals in humanities and social science, and those dealing with literature and libraries, the community, politics, and history, as well as children's and youth magazines. The questionnaire was found to be valid when used for a first survey of the use of periodicals.

VAN HOUSE, NANCY A., & CHILDERS, THOMAS. (1990, April-June). Dimensions of public library effectiveness II: Library performance. *Library & Information Science Research, 12*, 131-153.

Investigates the construct of effectiveness of public libraries and develops a methodology that can be transferred to other types of libraries. Dimensions of public library effectiveness revealed by performance of libraries were assessed by librarians in 84 public libraries. They rated their libraries on each of 61 indicators of effectiveness. The librarians rated their libraries as best on free library services and support of intellectual freedom, and least well in terms of community relations and staff related items. Factor analysis identified 12 dimensions of performance. Taken as a group, the factors reflected a mixture of approaches to effectiveness.

MCCAULEY, ELFRIEDA. (1991, April). Native American school libraries: A survey. *School Library Journal, 37*, 34-38.

Surveys 122 Native American elementary and secondary schools of the federal system concerning library resources, personnel, and services to determine if they met American Association of School Librarians standards. Comparisons were made with earlier surveys. It was found that 83.6% have school libraries; 45% have full-time librarians; 93% have book collections large enough to equal or exceed the 1985 school standards of numbers of books per student. Many of the collections included old and out-of-date books. Among other resources 40.9% reported having audiovisual material; 85%, a reference collection; and 73%, a professional collection. There were few periodicals in many schools.

III-7 Social and cultural influences on reading

KOSMOSKI, GEORGIA J.; GAY, GENEVA; & VOCKELL, EDWARD L. (1990, Summer). Cultural literacy and academic achievement. *Journal of Experimental Education, 58*, 265-272.

Tests whether there is a relation between cultural literacy and academic achievement, including reading. Subjects for the study were 611 fifth grade students from 16 urban elementary schools. Data for each pupil included the reading and arithmetic scores from the CTBS, score on the Cultural Literacy Achievement Test, and demographic data. IQ scores on the Cognitive Skills Inventory of the CAT for a subsample of 108 subjects were randomly gathered and recorded. Pearson correlation coefficients, comparisons of means, and one-way ANOVA were used to analyze the data. A significant ($p < .001$) positive relation was found between cultural literacy achievement and each area of academic achievement. The correlation between IQ and cultural literacy scores was .82. Ethnicity, SES, and type of school attended appeared to affect cultural literacy achievement but not the pattern of relationship between cultural literacy and academic achievement. Those who scored high on one tended to score high on all and vice versa.

Horowitz, Rosalind. (1990). A reexamination of oral versus silent reading. *Text, 11*, 133-166.

Examines oral versus silent reading from a social-contextual and functional perspective. A model is presented of multiple factors that should be considered when decisions are made about oral and silent reading problems and practices. The factors include the age and developmental stage of the individual reader, the historical periods in which oral and silent reading occur (their writing systems, languages, social and cultural group uses of literacy), discourse types, and uses of reading outside of school settings. The model was applied to a study of 200 Hispanic ninth graders' uses of oral and silent reading. Both kinds of reading were found to be varied and served a range of functions. Excerpts from a sample interview are included in the report.

III-8 Literacy and illiteracy

Newman, Anabel Powell, & Beverstock, Caroline. (1990). *Adult literacy: Contexts and challenges.* Newark, DE: International Reading Association.

Presents a comprehensive analysis of research related to the history, definitions, and practices of adult literacy. National literacy studies and projects are summarized, as well as examined for strengths and limitations. Recommendations for facing the challenges of adult illiteracy and current literacy initiatives are presented.

Cárceles, Gabriel. (1990, February). World literacy prospects at the turn of the century: Is the objective of literacy for all by the year 2000 statistically plausible? *Comparative Education Review, 34*, 4-20.

Summarizes quantitatively preliminary results of current research work in Unesco's office of statistics with a view to assessing major trends in literacy and their implications in terms of projected literacy levels. Five variables were used to estimate literacy rates: the rate of population growth, the distribution of the population by age groups and sex, literacy rates by age and sex, the number of adults made literate, and school enrollment. Major literacy trends between 1970 and 1985 are included for different countries. Disparities among and within different parts of the world were delineated. Several conclusions were made. Despite investment in education, the Third World risks achieving only partial progress in the eradication of illiteracy in large clusters of its adult population. Most of the world's illiterates are found in the poorest countries, especially in rural areas, with women more affected than men. Literacy plays an important role in rising productivity levels. The most striking value of literacy is its contribution to human fulfillment and liberation.

Dave, Ravindra H.; Ouane, Adama; & Sutton, Peter. (1989). Issues in postliteracy. *International Review of Education, 35*(4), 389-408.

Examines conceptual issues and interpretations in current postliteracy practice by reviewing the research and expert opinion in the area. Ways were noted in which resources invested worldwide could be used most effectively to meet local goals. The following topics were reviewed: concept of postliteracy (relations between postliteracy and literacy, literacy and postliteracy to the norms of formal education, literacy and postliteracy to development), postliteracy strategies (success of programs, recent changes), and refinement of the concept of postliteracy (preventive education, participation and autonomy, postliteracy as continuing education). It was concluded that if illiteracy is to be eradicated, the concept of educational continuum must be accepted, and institutional and practical difficulties must be overcome (funding, change of social and psychological perceptions, and motivation through improvement of the physical environment of learning and instruction).

Easton, Peter A. (1989). Structuring learning environments: Lessons from the organization of post-literacy programs. *International Review of Education, 35*(4), 423-444.

Reviews research concerning or relevant to postliteracy programming. Because of the scarcity of research on postliteracy, the investigator included observations from his experience with literacy and postliteracy programs in Sahelian West Africa. Because of no or inadequate funding, there have been relatively few large-scale efforts at postliteracy programming and even less research or evaluation concerning their results. The key issue proposed is for a literate environment in which adequate opportunities for the application of literate skills is ensured. To realize a satisfactory postliteracy environment, postliteracy should be planned before literacy; programs should be concerned with primary school leavers; increased attention should be given to the economic and social structure of the learning environment.

Rose, Mike. (1989). *Lives on the boundary: The struggles and achievements of America's underprepared*. New York: The Free Press.

Presents a descriptive study in autobiographical, case study, and commentary forms on some of the problems encountered by individuals who are designated as illiterates both in school and out. The author portrays examples of how false assumptions about error, remediation, and linguistic competencies of poorly prepared students are widespread throughout the country and influence such diverse aspects of education as lesson plans and the sectioning of academic territory. The author traces the pedagogical model for remedial/corrective instruction as one that viewed literacy problems from a medical-remedial perspective. It is argued that the teaching of writing and reading to underprepared students needs to be fundamentally reconceived. The current stress in college remedial programs is felt to foster a social and intellectual isolation from print and to engender attitudes and beliefs about written language that keep students from becoming literate. Throughout, the author argues for a different philosophy toward and understanding of language and the teaching of language.

Rentz, William D., & Bailey, Charles. (1991, March). An adult literacy program gains success in NC. *T.H.E. Journal, 18*, 70-71.

Designs a model based on local work for rural adult education (including literacy) throughout North Carolina. Basic assumptions and directives designed to alleviate barriers to literacy were determined at a national conference on rural education. The management team researched computer-aided literacy programs, developed a lab, and selected the most versatile courses to use in these programs. One reading instruction team was assigned to each locale, with a supervisor overseeing the entire county. Two 3-hour classes were held every week at varying times at each site for 11 weeks, resulting in a total of 66 hours of literacy instruction. The program was considered successful. Computer acceptance by the students, ages 20 to 90, was excellent.

MARSH, GEORGE E. II; POLLAN, CAROLYN; MCFADDEN, ANNA C.; & PRICE, BARRIE JO. (1990, December). Literacy skills of welfare recipients. *Urban Review, 22*, 299-304.

Determines the literacy skills of a random sample of welfare recipients (27 males, 79 females, ranging in age from 17 to 69 years) in two rural and two urban counties. Instruments used were the WJPEB and a comprehensive interview form. Of the 106 subjects, 36% functioned at nearly the eleventh grade levels in both reading and writing skills; 17% were considered functionally literate, scoring between the fifth and sixth grade levels; and 47% were functionally illiterate, scoring at middle second grade level in both areas. It was concluded that since 53% of the sample were literate, other reasons for unemployment should be considered.

SPRATT, JENNIFER E.; SECKINGER, BEVERLY; & WAGNER, DANIEL A. (1991). Functional literacy in Moroccan school children. *Reading Research Quarterly, 26*, 178-195.

Studies household and school-type literacy skills of 671 Moroccan school children and adolescents whose parents were of low literacy status. The sample included two groups of subjects, one who had been in school 5 years and the other 6 or more years. Instruments used were a household literacy assessment test, school-based assessments of Arabic reading ability, short-term memory test, concept identification, visual perception, and factual knowledge. Structured interviews were conducted with the parents of the younger children and with all 671 children. Two analytic approaches were applied to the data: error analysis of individual items of the Household Literacy Assessment to examine variations in specific types of household reading skills among the subjects, and linear modeling techniques to determine the contribution of demographic and experience variables to the prediction of household and school literacy skills. Predictor variables included cognitive level, factual knowledge, gender, age, self-reported literacy activity, environment, parental educational level, and socioeconomic status. Although subjects had learned many skills relevant to household literacy tasks, they demonstrated only partial knowledge of spatial and monetary conventions and contextual knowledge, as in advertising. Background factors important for the development of household literacy skills were cognitive level, factual knowledge, and grade level, which significantly predicted both household and school literacy skills, as well as gender and environment. Females, rural dwellers, and others with fewer opportunities to practice reading skills appear most at risk for functional illiteracy even if they acquire school literacy.

PATEL, V.L.; EISEMON, T.O.; & AROCHA, J.F. (1990, January). Comprehending instructions for using pharmaceutical products in rural Kenya. *Instructional Science, 19*, 71-84.

Examines the interpretation of instruction by 18 Kenyan mothers for the preparation and administration of a medical solution to their children. They were interviewed in their homes. A set of pictures describing the preparation procedure was accompanied by written text instructions under two conditions: original, and revised to include familiar terminology. Subjects read one of two explanations. The verbal protocols were analyzed using propositional representation of instructional procedures. Subjects remembered the pictorial instructions but not the written ones. The original text was more difficult than the revised one.

LASWAY, REST B. (1989). The impact of post-literacy: A Tanzanian case study. *International Review of Education, 35*(4), 479-489.

Examines the impact of postliteracy in Tanzania. As a result of the literacy program, the results of 1986 literacy tests showed that illiteracy had dropped from 67% in 1970 to about 10% in 1986. The rates of illiteracy vary from region to region and between males and females. Tanzania has been faced with an economic crisis that has been unfavorable to the advancement of postliteracy activities. The results of a 1983 impact study showed that literacy had helped to increase income, improve health and nutrition practices, and increase participation in political affairs. For more than a decade economic difficulties have hindered the advancement of postliteracy. As a result, practical problems have arisen concerning the rural press, rural libraries, radio and film education, agricultural shortages, and economic constraints. It was concluded that many factors control literacy development besides reinforcement of literacy.

MARSHALL, JUDITH. (1990, February). Literacy and people's power in a Mozambican factory. *Comparative Education Review, 34,* 61-84.

Presents an ethnographic study in Mozambique that includes observations on literacy training in a factory. Parts of interviews with workers are reported. The national literacy program and its history also are described. The organization of time and opportunity for social communications in the literacy classroom and on the shop floor were observed. The literacy classroom was embedded in social and political relations and ideological practices. Ordinary workers brought hopes and fears to literacy based on their experiences of subordination within the workplace. Expectations brought to the literacy classroom were based on experiences with literacy in the home, community, and workplace, mediated by gender, race, and class.

CUMMING, ALISTER. (1991, June). Uses of biliteracy among Indo-Canadian women learning language and literacy. *Canadian Modern Language Review, 47,* 697-707.

Proposes in a case study that decisions about the language of instruction for adult literacy learners require consideration of several factors in the sociolinguistic situation of particular learner groups. Interviews with 13 Indo-Canadian women learning ESL literacy in a project showed that their main intentions were to interact more with the English-speaking population in Vancouver; all felt their existing Punjabi literacy, based on their schooling in India, was sufficient. They were more interested in improving their reading and vocabulary than in writing. At the end of the course the women read frequently in English except for religious texts which were read in Punjabi. Factors considered in this study provided or added to its success: local patterns of literate language use, status of minority and majority languages, gender roles, felt needs of learners, their existing knowledge of literacy, their socioeconomic stability, and certain kinds of language supports (topics and skills of common interest, bilingual use, convenient instructional hours, childcare during classes). These program supports created conditions for formal literacy learning not usually available elsewhere.

HLADCZUK, JOHN; ELLER, WILLIAM; & HLADCZUK, SHARON. (1990). *General issues in literacy/illiteracy: A bibliography.* Westport, CT: Greenwood Press.

Lists citations dealing with aspects of literacy/illiteracy under 37 topics. Citations are in alphabetical order under each topic category.

HLADCZUK, JOHN; ELLER, WILLIAM; & HLADCZUK, SHARON. (1989). *Literacy/illiteracy in the world: A bibliography.* Westport, CT: Greenwood Press.

Presents some 2,500 citations on literacy/illiteracy. Citations are categorized under five major headings: Cross-Cultural Research, Cross-National Research, Literacy in the World, World Regional Research, and National Research. The latter two categories are further subdivided.

III-9 History of literacy

STEPHENS, W.B. (1990, Winter). Literacy in England, Scotland, and Wales, 1500-1900. *History of Education Quarterly, 30,* 545-571.

Reviews main trends in studies of the history of literacy in Great Britain (largely England) after 1500. Since World War II research has passed through two overlapping phases: (1) There has been a wide expansion of traditional historical research embracing educational, political, and social history, concerned with the nature of published literature and its readers; and (2) dating from 1960 there have been many attempts to measure the extent of literacy based on quantitative and quantifiable source material. As a result of this research, researchers have developed fairly sound ideas about the nature of reading materials for the eighteenth and nineteenth centuries and under what circumstances they were produced. In this report, attention was given to the use of signatures to identify people who were literate. Quantification revealed general trends in basic literacy and its geographic and occupational distribution. Recent research has sought to relate regional and community variations in signature-literacy levels and change over time to wealth, functional use of literacy, influence of religion, extent of elementary education, and economic change with its social consequences. Quantification alone is not satisfactory; qualitative reports also are needed.

VENEZKY, RICHARD L. (1990, Summer). The American reading script and its nineteenth-century origins. *Book Research Quarterly, 6,* 16-28.

Examines conditions that led from an author-centered reading textbook at the beginning of the nineteenth century to a publisher-centered textbook by the end of the century. These changes are traced through the contributions of Samuel Wood, William Holmes McGuffey, and Lewis Baxter Monroe representing early, middle, and late innovations in textbook composition. Wood was New York City's most important publisher of children's books in the nineteenth century, the compiler of the first graded series of readers, and an important educator and publisher. It is proposed that McGuffey has been overpopularized in this century mostly from a "mythology that deviates markedly from fact." The Monroe Readers mark the last of textbooks built around oral reading and elocutionary principles and, with their teacher's guide, the last step in the scripted lesson plan (step-by-step directions for instruction). Details about each of the three compilers are included. Central to the discussion are the assumptions that reading textbooks over the past 250 years have guided instruction and have been heavily influenced by conditions of the publishing industry.

MONAGHAN, E. JENNIFER. (1990, Winter). "She loved to read in good books": Literacy and the Indians of Martha's Vineyard, 1643-1723. *History of Education Quarterly, 30,* 493-521.

Details efforts to teach Native Americans living on Martha's Vineyard to read and write. The primary source of information about this instruction was Experience Mayhew's *Indian Converts*. Literacy was considered an important part of missionary activity. In their motives for and uses of reading they resembled other devout Christians. In both cases there were readers who could not write, especially girls. Indian ministers and several devout males were literate in both reading and writing. The religious motivation for literacy was of critical importance to the Vineyard Christian Indians. There is almost no evidence of their process of literacy acquisition. Several implications were drawn from the study. In spite of few texts written in their native language, the Indians regarded literacy as an important addition to their culture. Literacy here was short on practicality but long on personal enrichment. Literacy moved beyond the initial motivations; writing became a generalizable skill useful in political and legal contexts. The acquisition of literacy here changed culture in small ways.

MONAGHAN, E. JENNIFER. (1988, March). Literacy instruction and gender in Colonial New England. *American Quarterly, 40,* 18-41.

Examines how literacy instruction was conducted in colonial America with attention being given to the role played by gender. Topics discussed included how and by whom reading and writing were taught, how the colonists viewed literacy from legal and economic standpoints, sequences of instruction, and literacy and employment. Reading was considered easy to teach, was unaccompanied by writing instruction, and was done by women. Reading instruction was preceded by writing instruction because of the oral alphabet method. Since writing was considered important for jobs, it was taught by men and in many cases restricted to boys. Low social class combined with poverty often correlated with illiteracy in reading and in writing. Other details of literacy education in the colonies were documented.

MONAGHAN, E. JENNIFER, & SAUL, E. WENDY. (1987). The reader, the scribe, the thinker: A critical look at the history of American reading and writing instruction. In Thomas S. Popkewitz (Ed.), *The formation of school subjects: The struggle for creating an American institution* (pp. 85-122). New York: Falmer Press.

Presents an analysis of the historical and recent literature to explore the reasons for the disparity in attention given to reading and writing. Prior to very recent times, reading instruction has been given more attention in schools, in the literature, and in research than has writing instruction. The chapter includes historical definitions of reading and writing, and then discusses the relation between theory and practice as well as the impact of social and political forces as factors in bringing about change in both fields. The current concern with writing instruction, a new movement, is also given attention.

BLOUET, OLWYN MARY. (1990, Winter). Slavery and freedom in the British West Indies, 1823-33: The role of education. *History of Education Quarterly, 30,* 525-543.

Shows the role of education, with an emphasis on literacy, in the transition from slavery to freedom in the British West Indies. In 1823, 10 years before the British parliament passed the Abolition of Slavery Act, the government embarked on a policy of amelioration whose purpose was to prepare slaves for eventual freedom. In schools and Sunday schools, Bible reading was important; literacy training was included in some schools. Proponents of this training were missionaries, reformers, and government officials. Opposed were many planters who feared that education would lead to insurrection. Some land owners allowed instruction to be given on their estates. Literacy training was intended to serve spiritual, moral, and social objectives. When reading was offered, methods of instruction followed those in use in England. Books used were sent from England. It appeared that slaves were eager to attend school and to gain an education. The development of education helped to undermine slavery and contributed to the cause of freedom. Literacy was an important part in this process.

STEVENSON, LOUISE L. (1990-1991, Winter). Prescription and reality: Reading advisers and reading practice, 1860-1880. *Book Research Quarterly, 6,* 43-61.

Shows that Victorian Americans were serious readers. The many advice books, along with diaries and letters, tell much about Victorian reading practices and about the changing role of books and periodicals in mid-nineteenth-century society. Publishers offered a great variety of books at low prices. Authors of reading advice books (termed *reading advisors*) hoped readers would use books as an aid to moral and intellectual growth but worried that books might overpower their readers. Active reading was advised; readers should gain meaning from books by comparing, criticizing, and generalizing. History and geography should be preferred reading. Although the novel was the most popular genre, it was condemned by the advisors. Universal concern was shown about women's reading. Story newspapers and dime novels were also condemned because they were "blood and thunder tales."

CURTIS, BRUCE. (1990, Winter). Some recent work on the history of literacy in Canada. *History of Education Quarterly, 30,* 613-624.

Reviews selected research concerning the history of literacy and reading instruction in parts of Canada. Several articles appeared in the 1970s, but little on the history of literacy was done in Canada in the 1980s. Included in the report was a critical analysis of several of these reports.

FRAGO, ANTONIO VINAO. (1990, Winter). The history of literacy in Spain: Evolution, traits, and questions. *History of Education Quarterly, 30,* 573-599.

Details the problems literacy has encountered in Spain. One of the features of the expansion of literacy has been the lack of religious, political, and ideological goals for its promotion and support. Literacy there has been more dependent than elsewhere on education and on urbanization through migration from rural areas. The relation between oral and written languages and culture are examined because of Spain's rich and long oral tradition. Illiteracy decreased from 70% in 1860 to 14.2% in 1950. Many illiterates lacked instruction or practice. Little scholarly interest in literacy as a historical process has been evident. Exceptions are the topics of books, printing, writing, and education. It was after 1898 that interest was shown in discovering the causes and remedies for illiteracy. Spain is an example of comparatively late and slow developing literacy. Changes that occurred in publications are discussed.

STITES, REGIE, & SEMALI, LADISLAUS. (1991, February). Adult literacy for social equality or economic growth? Changing agendas for mass literacy in China and Tanzania. *Comparative Education Review, 35,* 44-75.

Compares and contrasts past and current state policies for adult literacy education in China and Tanzania. Described are the historical contexts in which the promotion of mass literacy became a key component in the drive for social equity and the implications of using literacy as an instrument of economic development. Although the backgrounds are different, China and Tanzania adopted similar literacy strategies after the transition to socialism. Literacy development in both countries is discussed. Recent economic changes have affected educational policy, especially adult literacy. The effects of the transition from political to economic orientations to mass literacy for rural populations in both countries are noted. It was concluded that the ultimate retention of literacy skills requires transformations in social structure and leadership in order to create opportunities for people to use these skills.

RUBINGER, RICHARD. (1990, Winter). From "dark corners" into "the light": Literacy studies in modern Japan. *History of Education Quarterly, 30,* 601-612.

Points out Japan's lack of scholarly inquiry about the social meanings and role of literacy. The gap in scholarship is due to a lack of a database comparable to that in other countries, obstacles inherent in the Japanese language, and greater interest in the growth of schools than in skill levels of individuals. Standard sources on educational development in nineteenth century Japan were indirect indicators of literacy: novels, contemporary observers, analyses of school enrollment data, and signature data. Direct measures were derived from school archives (school records, student essays) and from conscription data in the statistical manuals of the Army Ministry. The latter showed that illiteracy persisted among groups well into the twentieth century. Several trends were noted for the nineteenth century. The percentage of total illiteracy dropped, but the percentage of those minimally literate rose. The high literacy of village officials, teachers, doctors, or priests did not spread much beyond this

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group. New scholarship suggests important variables affecting literacy that may prove to be important in the measurement.

III-10 Newspaper publication

Gladney, George A. (1990, Spring). Newspaper excellence: How editors of small & large papers judge quality. *Newspaper Research Journal, 11*, 58-72.

Surveys 275 editors of newspapers of different sizes to determine how they perceive 18 standards for their own newspapers and newspapers of comparable size. The editors in a questionnaire ranked the importance of organizational and content standards. The rankings of staff enterprises, staff professionalism, and comprehensive news coverage showed a straight line drop in perceived value from large papers to small. The same pattern, though weak, was found for news interpretation. Editors of small newspapers valued more highly the importance of community leadership, strong local news coverage, and community press than did editors of large newspapers.

Pratt, Cornelius B. (1990). Ethics in newspaper editorials: Perceptions of sub-Sahara African journalists. *Gazette, 46*(1), 17-40.

Investigates perceptions of private and government journalists in Nigeria about ethics in newspaper editorials and compares the results with an earlier thematic content analysis of newspaper editorials. Data were collected from 348 journalists on nine Nigerian national newspapers who completed a one-page questionnaire. Of the overall measures of ethics, these subjects preferred utilitarian ethics the most and situation ethics the least. These results were consistent with those in the content analysis study. The results of regression equations showed that age, length of service, membership of editorial department, and knowledge of newspaper's code of journalistic ethics accounted for the variance in the journalists' perceptions of ethics in editorials. Few differences were found between private and government newspapers.

Lacy, Stephen, & Fico, Frederick. (1990, Spring). Newspaper quality & ownership: Rating the groups. *Newspaper Research Journal, 11*, 42-56.

Examines whether different newspaper types pursued different goals which are reflected in the newspapers' news content. The final sample of 80 newspapers were content analyzed and were stratified for ownership and competition and included 31 independent and 49 group-owned newspapers. News stories were content analyzed for source of stories, circulation, and ownership. A news quality index was developed and included commitment to locally produced copy, amount of nonadvertising copy, ratio of nonadvertising to advertising space, number of interpretative and in-depth stories, amount of graphics, number of wire services, story lengths, and reporter workload. New predictable differences in quality were found between group-owned and independent papers. The large-circulation papers rated no better than smaller ones in spite of greater resources. When circulation was controlled, some small-circulation newspapers produced better newspapers than expected; the opposite was true for some large-circulation papers.

Rollberg, Jeanne Norton; Sanders, Luther W. "Sonny"; & Buffalo, M.D. (1990, Fall). Down to the wire: How six newspapers reported public opinion polls during the 1988 presidential campaign. *Newspaper Research Journal, 11*, 80-93.

Assesses the quality of newspaper reporting of polls and compares the results with earlier studies. In six newspapers the quality of 156 reports of polls was measured by eight disclosure standards from the AAPOR Code of Professional Ethics and Practices. These were published during the final 65 days of the 1988 U.S. presidential campaign. Newspapers reported poll sponsor, sample size, and population sampled more often than other disclosure standards – timing (when polls were conducted), methods of contacting subjects, sampling error, response rate, and wording. One-third of the poll items concerned in-house polls and often were long articles. When compared with earlier poll studies, it was concluded that the increase in the number of polls reported was accompanied by a decrease in thoroughness in reporting.

NOLAN, JACK. (1991, Winter). Acronyms in newspapers: ASAP or SNAFU? *Newspaper Research Journal, 12*, 92-97.

Asks 20 graduate research students to identify 45 acronyms frequently used in newspapers. These were ones listed in *Associated Press Stylebook and Libel Manual* as familiar enough to be used on first and subsequent reference without further identification. Subjects explained what words the letters stood for and gave a general description of the entity the acronym represented. Six acronyms were familiar to all subjects: CIA, EPA, FBI, GE, GM, and KKK. This result raises questions concerning how familiar more average readers are with acronyms.

FASOLD, RALPH; YAMADA, HARU; ROBINSON, DAVID; & BARISH, STEVEN. (1990, December). The language-planning effect of newspaper editorial policy: Gender differences in *The Washington Post*. *Language in Society, 19*, 521-539.

Investigates the use of middle initials of men and women and prominent and ordinary men and women in one newspaper in two time periods – before and after the publication of a style manual. The latter did not include any references of middle initial use. Microfilm archives were searched for six years for prominent and ordinary men and women. In each category men were matched with women. Data were analyzed by the VARBRUL 2 analytic technique. The results indicate that being prominent and being male markedly favor the use of initials, and being ordinary and being female correspondingly disfavor it. The results of the Statistical Analysis System Categorical Models procedure reinforced the VARBRUL results. Significantly less difference in the use of middle initials by sex was found subsequent to the publication of the style manual.

BUSTERNA, JOHN C., & HANSEN, KATHLEEN A. (1990, Summer). Presidential endorsement patterns by chain-owned papers, 1976-84. *Journalism Quarterly, 67*, 286-294.

Hypothesizes that U.S. chain newspaper endorsement is associated with greater presidential homogeneity than would be expected by random choice alone. Data for this study were compiled from *Editor & Publisher* magazine's 1976, 1980, and 1984 Quadrennial Presidential polls. Of the 1,500 newspapers studied, it was found that 80% of the time the Republicans were favored. Chains were not more likely than nonchains to endorse GOP candidates nor were they more likely to endorse the overall press-favored candidate. Chain-ownership newspapers demonstrated more autonomy than was found in earlier studies.

III-11 History of newspapers and magazines

STEELE, JANET E. (1990, Autumn). The 19th century *World* versus the *Sun*: Promoting consumption (rather than the working man). *Journalism Quarterly, 67*, 592-600.

Compares the policies and newspapers of editors Charles A. Dana and Joseph Pulitzer at the end of the nineteenth century. Dana's producer orientation was reflected in the *Sun*'s political outlook by its championing of labor organizations, producer's cooperatives, and Democratic Tammany Hall. Pulitzer's consumer orientation was reflected in the *World's* advertisements, illustrations, and emphasis on leisure activities. Dana objected to advertising, disliked illustrations, refused to use linotype, and rejected corporatism and the lack of independence it entailed. Pulitzer's *World* made an immediate hit at the newsstands with its consumer orientation. The rapid growth of the *World* came at the expense of the *Sun*, even though changes had been made in the latter. The ways in which Dana and Pulitzer viewed their readers were closely connected to the contents of their newspapers and to their business strategies. The two editors reflected two worlds – one old, one new – and Pulitzer was the winner.

WHITBY, GARY L. (1990, Summer). Horns of a dilemma: The *Sun*, abolition, and the 1833-34 New York riots. *Journalism Quarterly, 67*, 410-419.

Describes the news coverage of abolition during the New York *Sun*'s first year, beginning in September 1833, and compares images of blacks with the paper's editorial policies on slavery. The two owners of the *Sun* held grave differences over the issue of slavery and expressed them in the paper. Their stories about blacks revealed a mix of compassionate understanding and satirical stereotypes. Various examples are included to show the differences between the two men's attitudes toward abolition. The mixed way in which the *Sun* editorialized the issue of abolition may have been responsible for the riots of 1834. The paper made no effort to play down the violence.

STEIN, HARRY H. (1990, Summer). American muckraking of technology since 1900. *Journalism Quarterly, 67*, 401-409.

Compares the muckraking of writers in the early twentieth century with those of the present day. Muckraking as used here goes beyond sensationalistic and yellow journalism. It has six aspects: exposes a hidden situation, depicts the situation prescriptively, locates an agent of control, indicates preferred action, incites audience response, and maintains author authority. In both periods, muckrakers generally attacked those seen in control of dehumanizing technology. Most seek to increase the power of individuals and to make business and government more responsive. Muckrakers never conveyed a systematic philosophy of a good society or good technology. Throughout this century they have called on Americans to understand and redo their technology and have expressed values people understand. Their ideas have been expressed in various communication media: magazines, fiction and nonfiction books, and newspapers.

EVENSEN, BRUCE J. (1990, Summer). Surrogate state department? *Times* coverage of Palestine, 1948. *Journalism Quarterly, 67*, 391-400.

Analyzes coverage by the *New York Times* of East-West relations during the winter of 1947-1948 and how this coverage influenced its reporting of Middle East developments. Three kinds of evidence were used in the argument that the press, led by the *Times*, joined by aroused public opinion, helped to constrain Truman administration policy initiatives on Palestine at the coming of the Cold War. This conclusion was based on documents in the Truman library, poll data collected in 1947-1948, and a content analysis of the *Times* in the 168 days between the U.N. decision to partition Palestine and the establishment of a Jewish state. Truman saw the *Times* as an expression of public opinion and sought bipartisan support. Leaders at the *Times* saw a need for the paper to influence policy.

III-12 Book publication

WHITNEY, GRETCHEN. (1989-1990, Winter). The UNESCO book production statistics. *Book Research Quarterly, 5*, 12-29.

Investigates Unesco book production statistics for books published in English, French, German, Spanish, and Russian. Data came from tables in Unesco's Statistical Yearbooks published from 1970 through 1988 for data from 1970 through 1986. The total number of books reported by languages showed a highly erratic pattern, largely because of lack of data for major countries. Beginning in 1980 the decrease in the number of titles represented a decline in the numbers of countries reporting, not in the number of books being published. The books published in multiple languages made up more than half of the data set. It was concluded that the data were not comprehensive enough to provide a complete picture of the multilingual nature of book publishing.

KIST, JOOST. (1990, Fall). The Netherlands in the European community: A cultural area of modest proportions with a few large publishing companies with international interests. *Book Research Quarterly, 6*, 11-23.

Considers matters arising from the planned European economic integration of 1992 as they affect the Dutch publishing industry. Declines in sales of books and in reading are dramatic in almost all European countries, including the Netherlands. Other concerns here are the need for low Value Added Tax rates and fixed book prices, and the forcing out of small producers. The proposed integration offers opportunities in the maintenance of local markets, multicultural and language education, and harmonization of copyright laws. The future of Dutch publishing in the European market is hypothesized and outlined.

GRIFFIN, WILLIAM. (1990, July 6). Religious titles in the secular store. *Publishers Weekly, 237*, 25-26.

Reports the results of a survey conducted by *Publishers Weekly* concerning the religious book market. Of the 295 booksellers who responded to the survey, 71.5% carried religious books. Of the 211 having them, 43.7% were independent bookstores; 18.3%, specialty independent stores; 11.5%, college/university bookstores; 16.3%, national and regional chains. Bibles accounted for the largest part of the sales. Scripture held sacred by a faith was the most popular type of religious book kept in stock, with Protestant Bibles occupying 60% of the inventory. The average number of religious titles carried was 236.

III-13 History of juvenile literature

HARRIS, VIOLET J. (1990, Fall). African American children's literature: The first one hundred years. *Journal of Negro Education, 59*, 540-555.

Traces by decades the history of literature for African-American children. African Americans have been depicted in general literature since the seventeenth century, often in stereotyped ways. The work of Mrs. A.E. Johnson in the 1890s is often cited as the beginning of African-American children's literature. Throughout the report, 42 juvenile books are cited and used as examples of the characteristics of the period in which they were published. Writers of other similar works are mentioned. Attention is given to works by African Americans. Since the 1970s there have been about 200 books published about African-American experiences, but many never reach African-American children. Several new writers who emerged in the 1970s are active in this field of children's literature.

DROTNER, KIRSTEN. (1988). *English children and their magazines, 1751-1945*. New Haven, CT: Yale University Press.

Traces the rise and fall of juvenile magazines in Britain with an emphasis on social history as well as on the history of periodicals themselves. The text is divided into five broad time periods. The first covers the years 1751 to 1850 and deals with reason and religion in the first juvenile magazines. The first real juvenile periodical, the *Lilliputian Magazine*, was published by John Newbery in 1751 and featured riddles and music, violence, and giants, with a moral attached. Between 1752 and 1800, a total of 11 juvenile journals were published. The magazines were in keeping with the trend in juvenile fiction to improve and instruct children. In general, these early magazines were intended for the children of the gentry. In 1805 the first religious juvenile periodical appeared. With the rise of Britain as a powerful industrial nation, the middle class became the single most expanding social class. The male domination of the growing middle class led to the upsurge in and stress on the moral entertainment in mid-Victorian boys' magazines. The next time period dealt with is titled Commercial Morality for Adolescent Girls and Boys, 1870-1918. The final time period consists of the time between the two world wars and is designated as one emphasizing universal entertainment for children. The years following 1918 showed a sharp decrease in religious and other types of "improving" material in favor of magazines emphasizing fiction and geared toward a whole generation of boys and girls of school age. Juvenile periodicals took their point of departure in actual experiences of juvenile conflict and molded those conflicts into entertaining resolutions.

III-14 Juvenile books

LEHMAN, BARBARA A. (1991, Spring). Children's Choices and critical acclaim: A unified perspective for children's literature. *Reading Research and Instruction, 30*, 1-20.

Compares the characteristics of two groups of children's books: eight that received critical acclaim and were named Children's Choices and nine that received critical acclaim only. These books were analyzed for themes, style, and structure. When the content analysis was complete, a descriptive narrative was written to present the entire qualitative analysis for each of the 17 books. The results were compared both within and between the two groups. The differences are more apparent for characteristics of style and structure than for themes. Predictable qualities, an optimistic tone, and a livelier pace are stylistic characteristics favored by children. They prefer action-oriented structures and complete resolutions. They do not prefer unresolved endings with a tragic tone and an introspective plot with a slow pace.

LEVSTIK, LINDA S. (1990, Fall). From the outside in: American children's literature from 1920-1940. *Theory and Research in Social Education, 18*, 327-343.

Analyzes children's books published in the 1920s and 1930s for their views of the world through social, political, and moral constructs. Twenty quality books appropriate for children between the ages of 9 and 12 years were selected for each decade. They were from the genres of historical and realistic fiction. Children's books of the 1920s romanticized nationalism and conflict, did not represent an insider's view of other cultures, were not bias-free, presented negative descriptions of Europeans, and equated inner evil with outer appearance. In contrast, readers in the 1930s were exposed to folklore, faith, and culture of other countries in positive contexts. There was less negative stereotyping and more acceptance of the common humanity of the world's people. Descriptions of foreign landscapes were positive, not dangerously exotic as in the 1920s books. Differences in the two decades were caused, according to the investigator, to the Depression and the experience of children's authors with other countries.

HOLMES, DEE ANN, & HOLMES, COOPER B. (1991, April). Curiosity as portrayed in young children's literature. *Psychological Reports, 68*, 695-700.

Questions how curiosity is portrayed in 210 young children's picture storybooks. The publication dates ranged from 1922 through 1989. Only one book per author was studied.

Each of the 116 instances of curiosity was assessed in terms of how it was portrayed: neutral (being curious was descriptive), positive (being curious was clearly desirable), or negative (being curious was clearly undesirable). Analysis revealed that 76.7% of the instances showed curiosity to be neutral; 9.5%, positive; 13.8%, negative. When the books were divided into older (1969 or earlier) and more recent (1970 or later) there was a clear shift toward recent books portraying curiosity in a negative light.

ZILBOORG, CAROLINE. (1990, June). Caddie Woodlawn: A feminist case study. *Children's Literature in Education, 21*, 109-117.

Presents a case study of the character Caddie Woodlawn from a book whose title is the same. It was concluded that the novel is an important example of a genre of works by American women who present admirable girl heroines as feminist role models for young female readers. Characteristics of the different characters (especially the main one) and situations they were placed in are detailed. Comparisons with selected books are included.

GIACCHINO-BAKER, ROSALIE. (1990). Southeast Asian children's literature: The Thai experience. In Philip H. Dreyer & Mary S. Poplin (Eds.), *Claremont Reading Conference Yearbook* (pp. 231-249). Claremont, CA: Claremont Reading Conference.

Analyzes Thai folktales and proverbs for evidence of authority patterns in the Thai family; in religious traditions of animism, Hinduism, and Theravada Buddhism; and in secular institutions. Unique aspects of Thai culture that serve as foundations for these stories and give insights into the character of Thai people are stressed. It is only within the past 60 years that Thai folktales and proverbs have been translated into English. It was concluded that these genres are an excellent way to learn the customs and values of Thailand. Suggestions for classroom activities are included.

III-15 Censorship and freedom of the press

SZUCHEWYCZ, BOHDAN. (1990, February). New Right publications: A survey of public and academic libraries in Metropolitan Toronto. *Canadian Library Journal, 47*, 17-25.

Determines the holdings of New Right literature (wide range of contemporary political and religious perspectives, broad spectrum of subjects) in five major library systems in Toronto. A checklist of 150 titles was constructed. A search in card catalogs was made to determine the status of each title. The results indicated that 80% were located in at least one library. The 12 subject categories represented were collapsed into broader categories: social issues, anticommunism, politics/economics, creationism, and antisemitism. It was concluded that a high representation of New Right literature was found within Toronto libraries. Topics viewed as most controversial, as creationist, and as antisemitic had lower levels of inclusion. The presence of controversial literature showed that librarians were committed to intellectual freedom.

HANSEN, ELIZABETH K., & MOORE, ROY L. (1990, Spring). Chilling the messenger: Impact of libel on community newspapers. *Newspaper Research Journal, 11*, 86-99.

Investigates the impact, called here a "chilling effect" (fear), of libel on community newspapers in Kentucky. Questionnaires were completed by 69 editors or publishers. Almost 70% had been threatened with a libel suit at least once in the past five years. Chilling effect was assessed by a scale developed for this study. Those who had been threatened with a libel suit had a significantly higher chilling effect than those who had never been threatened. Libel was more chilling for smaller newspapers than larger ones. There was a statistically significant positive correlation coefficient between chilling effect and being insured for libel. Papers owned by individuals, families, and local corporations were more likely to state that libel insurance was too expensive for them to carry than were editors or publishers of papers owned by regional or national media chains.

THOMPSON, MARGARET E.; CHAFFEE, STEVEN H.; & OSHAGAN, HAYG H. (1990, Summer). Regulating pornography: A public dilemma. *Journal of Communication, 40,* 73-83.

Surveys by telephone 103 adults (64 women, 39 men) concerning their opinions of the regulation of pornography. Variables considered were genetic (sex, age), demographic (education, religion, marital and parental status), and political (party, ideology) as well as attitudes toward sex, exposure to pornography (movies, magazines, television soap operas), personal reactions, and perceived effects of pornography on others. Subjects generally agreed that pornography affects people's attitudes and behaviors and perceived some negative effects. Despite these negative views, 65% said that pornographic materials should be protected by freedom of speech and of the press. The strongest predictor of attitudes toward regulation of pornography was perceived effects, accounting for 47% of the variance; those who perceived pornography to have the greatest effects were opposed to its being regulated.

HEVENER, FILLMER. (1990, June). College students' attitudes toward censorship of sexual explicitness. *College Student Journal, 24,* 167-172.

Investigates the attitudes of 146 college students concerning the censoring of sexual explicitness in literature and drama. They reported their views on whether junior high school students, senior high school students, and adults should be exposed to 14 expressions. The major views of the subjects were that adults should have much freedom in selecting what they want to read, that there should be some restrictions of literature and drama for junior and senior high school students, and that literature influences people of all ages. Some inconsistencies in the responses were noted.

ZHANG, WENXIAN. (1990, March). Fire and blood: Censorship of books in China. *International Library Review, 22,* 61-72.

Traces the use of censorship in China from 770-476 B.C. to 1949 (the Republic of China). Every dynasty in ancient China had its own censorship, but there were differences in scope, degree, and effect. It reached its zenith when Manchu conquered mainland China and founded the Qing dynasty (1644-1911 A.D.). Censorship was used by governments as a tool to vindicate their ruling. Those who did the censoring were authorities, either emperors or executive officials. Political issues were the main themes, with religion and obscenity sometimes being the topics of censorship. Censorship caused a loss to Chinese culture as many valuable books disappeared through censorship.

III-16 Effects of reading

GALDA, LEE. (1990, October). A longitudinal study of the spectator stance as a function of age and genre. *Research in the Teaching of English, 24,* 261-278.

Examines oral responses of 35 fourth, sixth, and eighth grade pupils across two years and of 8 fourth through eighth grade pupils across four years to realistic and fantasy novels by contemporary children's authors. Subjects in small groups read and discussed two novels per year. Transcripts of these discussions were coded for evaluative responses using an existing hierarchy. Using the cross-sectional data from the first two years, the effects of grade on categoric, analytic, and generalization evaluative responses were examined with separate repeated ANOVA measures. The results indicated significant main effects for grade and genre as well as significant grade by genre interactions. Children's evaluative responses moved from mainly categoric in the fourth grade to more analytic in the upper grades. They responded to fantasy with more categoric evaluations and to realism with more analytic evaluations.

ANDSAGER, JULIE L. (1990, Autumn). Perceptions of credibility of male and female syndicated political columnists. *Journalism Quarterly, 67*, 485-491.

Questions if readers perceive male newspaper columnists as more credible than female ones and if the reader's sex makes a difference in the perceived credibility. The 164 college subjects (60 males, 104 females) read two syndicated columns, both written by men. They were retyped in newspaper style but with different bylines. Each subject participated in one of three conditions: no bylines, one by a fictional male, and one by a fictional female. Subjects completed a cover questionnaire and evaluated each column, using a 5-point scale with 10 sets of bipolar adjectives. A MANOVA analysis of variance was performed on the data to determine differences between reader perceptions of the columns for each set of adjectives and to find any differences between male and female subjects. Bylines made no significant difference overall in the subjects' perception of credibility, but there was a tendency for male readers to evaluate columns by male columnists higher in some stereotypical ways. Female subjects did not do this.

BURKHART, FORD N., & SIGELMAN, CAROL K. (1990, Autumn). Byline bias? Effects of gender on news article evaluations. *Journalism Quarterly, 67*, 492-500.

Determines in two experiments whether readers evaluate news stories written by women less favorably than those by men. In the first part, 90 students (53 females, 37 males) in journalism classes ranging from a sophomore laboratory to a graduate seminar read and evaluated three newspaper articles. Three different bylines were used: male and female first names and initials. Each subject read all three articles attributed to male or female name or initials. Combinations of bylines and article topics were randomly determined. On a 6-point rating scale, participants rated the authors. The overall results of ANOVA showed a trend toward rating those written by initials slightly lower. Byline and sex of reader interacted to influence ratings of quality of writing, as male readers made harsher judgments than female readers. Male and female readers showed no signs of reacting differently to male and female bylines. In the second experiment, 87 introductory journalism students (53 females, 34 males) evaluated one of four versions of an article (high and low quality works by a male or a female writer) and were asked if they recalled the sex of the author. High quality articles were rated more positively than low ones except on trustworthiness and accuracy, two of the three scales on which a pro-female bias was found. The main effects of author gender and article quality were the only effects found to be significant. Seventy-eight percent of the readers correctly recalled the sex of the author.

WYATT, ROBERT O., & BADGER, DAVID P. (1990, Summer). Effects of information and evaluation in film criticism. *Journalism Quarterly, 67*, 359-368.

Compares the effects of reading film reviews that present neutral information, positive evaluations, and negative evaluations. Each of the 226 college student subjects was assigned to one of seven treatment groups in a 3 (review direction) X 2 (information level) factorial design plus a control group (information only—nonreview). One review of a film was prepared but was varied by different kinds of evaluative adjectives. After reading reviews, subjects assessed their interest in attending the film on 0-100 scale. The results showed that the higher amounts of information, regardless of evaluation, lead to more interest in the film. Reviews with high information and with positive evaluation led to most interest, but high information alone raised interest nearly as much.

Forest, James J. (1990, August). Perspectives on human behavior in self-help paperbacks and introductory psychology textbooks. *Psychological Reports, 67,* 335-338.

Compares ratings by 360 introductory psychology college students of 20 self-help paperbacks and 20 psychology textbooks. Subjects rated eight items on a questionnaire on a 7-point scale on the basis of what the author seemed to think about each item. Two groups of students completed the questionnaire on two occasions separated by either two (n=38) or six weeks (n=76). Reliabilities in all cases were low. Students viewed self-help books as projecting people as masters of their fate, people as good, the importance of the concept of mind, the value of subjectivity, and the roles of nurture and the environment.

Perry, David K. (1990, Summer). News reading, knowledge about, and attitudes toward foreign countries. *Journalism Quarterly, 67,* 353-358.

Uses two-part panel data to examine relations among world news consumption, knowledge about foreign countries, and attitudes toward them. In 1984, 374 adults completed a telephone survey; in 1986, 134 from this original sample were interviewed again. The variables included knowledge about and attitudes toward five nations, diverse in locations and politics. For each hypothesis a partial correlation coefficient was computed between an independent variable in the first study and a dependent one in the second. Squared autocorrelations and partial correlations were used to test the hypotheses. Regardless of control for initial attitudes, world news consumption in 1984 was associated with learning about the five countries; increased knowledge in 1984 was related to greater news consumption in 1986. Increased knowledge in 1984 covaried with more favorable attitudes in 1986. The results suggest that a reciprocal, indirectly causal relation exists between increased world news consumption and more favorable attitudes, with enhanced knowledge mediating in both directions.

Fand, Roxanne J. (1989, Autumn). Detecting bias in newspapers: Implications for teaching ESL. *Reading in a Foreign Language, 6,* 315-322.

Investigates in two parts whether ESL speakers read a newspaper as critically as do native speakers. The purpose of the first part was to determine if 15 native graduate students discriminated between biased and unbiased texts. In the second part, 16 intermediate ESL speakers were tested on their ability to discriminate between biased and unbiased texts with sensitivity to linguistic variables. The native speakers rated 45 newspaper articles on the 1984 U.S. presidential election campaign for bias, rating 10 as clearly biased and 10 as clearly unbiased. They underlined biased language. The ESL students judged 3 of the 20 holistically by underlining biased language. Their results corresponded to those of the native speakers. It was concluded that critical reading, based on linguistic and holistic awareness, can be taught to ESL students.

III-17 Textbook content and publication

Biber, Douglas. (1991). Oral and literate characteristics of selected primary-school reading materials. *Text, 11,* 73-96.

Describes linguistic characteristics of 10 selected texts representing second, fourth, and sixth grade levels and various types of reading material (basal readers, science textbooks, novels, and comic books). They were compared to adult written and spoken genres of English to describe their linguistic characteristics relative to adult norms. An analysis was made of features associated with a variety of communicative functions including interaction, involvement, reduction in form, informational density, referential elaboration, situation dependence, and passive style. The study analyzed the linguistic characteristics of particular texts and presented a framework for future research that enabled a multidimensional description of children's texts and genres. The importance of these features (which are not associated with readability) to reading experiences of children are discussed.

HAAS, MARY E. (1991, Spring). An analysis of the social science and history concepts in elementary social studies textbooks grades 1-4. *Theory and Research in Social Education, 19*, 211-220.

Examines first through fourth grade social studies books in five series for concepts presented. In each text concepts were identified, recorded, grouped into the academic disciplines (anthropology, economics, geography, history, political science, and sociology), and classified as to whether they were fundamental to the discipline. Of the 998 concepts identified, 49% were geography ones; 15%, economics; 15%, political science; 9%, history; and 6%, sociology. Large differences in the numbers and kinds of concepts were found among the publishers. Of the 48 most frequently appearing concepts, only 15 appear at least once in all five series. The concepts appear in books at different grade levels.

CIBOROWSKI, JEAN; ANTES, MARY M.; ZORFASS, JUDITH M.; & AMES, NANCY. (1989, Fall). Improving textbooks and teachers' editions to meet the needs of diverse students. *Book Research Quarterly, 5*, 75-90.

Reports the findings of one of the projects funded by the Office of Special Programs whose purpose was to determine ways of making textbooks more usable for students with learning problems and for helping teachers overcome limitations of textbooks in use. A text analysis questionnaire containing 200 questions was devised. It was divided into two parts: one to assess students' editions and the other, teachers' editions. Using this questionnaire teachers examined textbooks for science (grades 1, 3, 5, 8, 9, 10); social studies (grades 1, 3, 5); and U.S. history (grades 10, 11). Based on the findings, a set of recommendations was made for publishers to consider.

REGESTER, CHARLENE. (1991, Spring). Visual and verbal content in U.S. history textbooks of the 1950s and 1980s. *Reading Improvement, 28*, 14-25.

Compares two widely used U.S. history book series published in the 1950s with two from the 1980s on the kinds and amount of visual and verbal content included. Selected samples in two textbooks from each series were examined for the total number of visuals, kinds of visuals, relation of visuals to the text, captioning, colors used, and total number of words. A proportional method of analysis was used to allow for a comparison of different textbooks. The results showed that textbooks today do not contain significantly more visuals or less narrative and expository content than did those of 30 years ago. The 1980s textbooks referred more often to people and places and less often to events, organizations, and statistical data than the 1950s textbooks. The 1950s books contained proportionately more illustrations and graphs than did the 1980s books. The latter contained more photographs, tables, and maps than the earlier texts.

WONG, SANDRA L. (1991, January). Evaluating the content of textbooks: Public interests and professional authority. *Sociology of Education, 64*, 11-18.

Examines the public and professional participation in a state-level (Texas) textbook-selection process. Although centralized adoption provides a forum for citizens and interest groups, the impact of these groups has a limited influence on professional educators, whose decisions reflect the dominance of technical priorities. The selection committee is concerned with these features: readability; versatility; organization; length of chapters; vocabulary skills; quality and timeliness of graphs, charts, and illustrations; introductory outlines; and end-of-chapter questions. Textbook evaluations are shaped by instructional, pragmatic, and organizational aims. The committee members are not guided by clear policies regarding content. Consequences of particular choices and decisions are not monitored as textbook reviewers change each year. The structure of the process – the time frame, ambiguities of purpose, practical constraints – is not set up to consider seriously the kinds of concerns outsiders have.

TALAGA, JAMES. (1989-1990, Winter). Forecasting methods and practices of academic textbook publishers. *Book Research Quarterly, 5*, 58-67.

Questions how academic textbook publishers forecast sales. Usable questionnaires were completed by 72 publishers. Since there was no general agreement about the definition of a textbook, making comparisons among publishers was difficult. They did not seem interested in forecasting the market; but when they did, they used and were satisfied with multiple methods, relying mostly on executive opinion and time series methods.

III-18 History of libraries

ELAYYAN, RIBHI MUSTAFA. (1990, June). The history of the Arabic-Islamic libraries: 7th to 14th centuries. *International Library Review, 22*, 119-135.

Deals with the development of the Arabic-Islamic libraries in the seventh to fourteenth centuries and later with their destruction. The different types of libraries established in this time period were mosques, private, public, and academic. The greatest libraries in Islam were the library of the caliphs in Baghdad (The House of Wisdom) and the one of the Fatimid caliphs in Cairo (The House of Science). The Arabic-Islamic libraries were rich in their collections, staff, and budget; they were well organized and offered different services to their users. Internal and external factors (negligence under caliphs at different times, the Crusades, accidental fires, raids of the Mongols) were responsible for the destruction of most of the Arabic-Islamic libraries.

III-19 Research techniques

STEMPEL, GUIDO H. III. (1990, Summer). Trends in *Journalism Quarterly*: Reflections of the retired editor. *Journalism Quarterly, 67*, 277-281.

Makes observations about research in journalism and mass communication during a 17-year period, 1973-1990. The number of articles appearing annually in *Journalism Quarterly* increased about 25%; the number of pages yearly increased from slightly more than 800 to about 1,050. These increases appear to be due to a growth in the number of college journalism faculty members and improved funding for the *Quarterly*. Two trends in authorship were noted: an increase in the number of women writers and coauthors. Only a slight difference was found in the frequency of the use of statistics. The average number of footnotes increased markedly. The mix of topics has not fluctuated greatly with two exceptions: more legal articles, and more concern with journalistic ethics in the later years.

CHARLES, SUSAN K., & CLARK, KATHARINE E. (1990, July). Enhancing CD-ROM searches with online updates: An examination of end-user needs, strategies, and problems. *College and Research Libraries, 51*, 321-328.

Evaluates the feasibility of providing an online updating service to end-users searching CD-ROM databases. Of the 45 searches using Silver Platter's Agricola database, 30 agreed to participate in the study. After the foregoing search strategy was completed, subjects went online, conducted the search, and selected online prints. In a questionnaire, subjects evaluated their use of the online system, the number and usefulness of the citations retrieved by the online system, and their prospects for future use of the online system. Observations of the subjects revealed that they did not know how to search for references. They showed interest in the availability of a low-cost, easily available, and usable CD-ROM/online updating system.

BUDD, JOHN M. (1991, May). The literature of academic libraries: An analysis. *College and Research Libraries, 52*, 290-295.

Uses the ERIC database on compact disc to investigate characteristics of citations to academic libraries from 1984 through 1988. The term as a major descriptor was attached to 328 articles, 262 being available with references. The 328 articles were found in 50 journals, 10 from other disciplines, with 300 authors. Besides the major descriptor, 406 different ones were used. The 262 articles included 3,708 citations, an average of 14.2 per article. The journal article is the most common form of cited material, the most frequently cited being *College and Research Libraries* and *Journal of Academic Librarianship*. Of the 401 different journals cited, 54% are in disciplines other than libraries. The majority of citations are to recent materials.

GERHARD, MICHAEL E. (1990, Autumn). A newspaper's 900 telephone poll: Its perceived credibility and accuracy. *Journalism Quarterly, 67*, 508-513.

Tests the accuracy of the results of one Dial-A-Vote 900 telephone poll conducted by a newspaper. Telephone interviews were conducted with 369 randomly selected subjects in which three of the four questions asked appeared in the previous survey. A credibility index was created. A third of the subjects assigned a high degree of credibility to the results of the 900 telephone poll even though a statement was included with the published results that the research was not scientifically conducted. As education increased, scores on the index decreased, showing that the less educated were more prone to accept the findings. The replication of three of the original questions provided evidence of the inaccuracy of the Dial-A-Vote results. In all three instances the differences between the 900 telephone poll and the probability sample were statistically significant. It was concluded that the newspaper published information that did not accurately reflect community opinion.

HAVICE, MICHAEL J. (1990, Autumn). Measuring nonresponse and refusals to an electronic telephone survey. *Journalism Quarterly, 67*, 521-530.

Identifies the noncontact and refusal rates for a survey conducted by an electronic telephone survey device and the reasons potential subjects refused to participate in the survey. In the first part of the study an electronic telephone survey consisting of 10 questions was used to determine ineligible phone numbers, noncontact rate, refusals, incomplete interviews, and completed interviews. Each number dialed was monitored to determine the status of the call. The second part of the study consisted of calling refusals and breakoffs to determine reasons for nonparticipation in the study. The contact rate for the 877 randomly generated numbers was 59.7%. Reasons for not participating included never participating in surveys, intrusion of privacy, and inconvenience. It was concluded that the noncontact rate in an electronic telephone survey is similar to any other telephone survey and that refusals appear to be more an effect of the telephone survey polling than of the mode of conducting the survey.

IV Physiology and psychology of reading

IV-1 Physiology of reading

Galaburda, Albert M. (1989). Ordinary and extraordinary brain development: Anatomical variation in developmental dyslexia. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 39, pp. 67-80). Baltimore, MD: Orton Dyslexia Society.

Reports on two lines of anatomical research in progress of relevance to developmental dyslexia: (1) autopsy observations on eight brains from dyslexic individuals, and (2) results of testing neurodevelopmental hypotheses in suitable animal models. The Dyslexia Neuroanatomical Laboratory has analyzed the eight brains of dyslexics and a group of brains received on nondyslexic control subjects. A common finding to all brains of dyslexics was the absence of ordinary symmetry in a language relevant area of the temporal lobe, the planum temporale. Additionally, the six male cases as well as one of the female brains showed multiple focal areas of malformation of the cerebral cortex, located variably in the language relevant perisylvian regions and to a greater or lesser extent bilaterally. Experimental research with animals indicates that symmetry may represent absence of the necessary developmental pruning of neural networks required for specific functions such as language. The pruning results in excessive neurons and connections. Preliminary evidence suggested that the increase in the number of neurons reflected a problem with elimination rather than with production of neurons. It was concluded that the dyslexic language areas may be larger because of the greater development of the usually smaller right side, thereby leading to more symmetric language areas.

Blanchard, Harry E.; Pollatsek, Alexander; & Rayner, Keith. (1989, July). The acquisition of parafoveal word information in reading. *Perception & Psychophysics, 46*, 85-94.

Conducts two experiments in an effort to determine why restricting the windows of visual information available during reading increases fixation duration. In the past, there have been two classes of explanation: (1) the reader extracts abnormal information outside the window and thus processing is slowed down; and (2) a restricted window does not allow for a preview of the word prior to fixation, thus identification is slower when the word subsequently is fixated. Subjects were all adults from a university community and numbered 10 and 9, respectively for the two experiments. In Experiment 1, subjects were presented with 160 short sentences on a computer terminal. Five window-size conditions were used: full line, with the entire line visible on every fixation; constant one word, with a one-word window present on each fixation along with all material to the left of fixation; constant two word, with a two-word window present on each fixation; and two alternating conditions, with the window size alternating from word to word. In the first alternating condition, there was a one-word window when odd-numbered words were fixated and a two-word window when even-numbered words were fixated; in the second alternating condition, the windows were reversed. In addition to the window size conditions, there were two text replacement conditions: (1) text outside the window replaced with uppercase Xs, and (2) each letter outside the window replaced with its most visually similar letter. Eye movement measures recorded included mean first fixation duration and mean gaze duration. The apparatus and procedure in Experiment 2 were essentially the same as those in the first experiment, but with different sentences and four new control conditions in addition to the two alternating window conditions. The results indicated that when the current window size and the window size on the prior fixation were unconfounded, the effects of window size on the time of fixation on a word were found to be due to the size of the window on the prior fixation. Restricting window size appeared to have only marginal effects on the fixation on which that restriction occurred. The benefit of previewing a word was influenced by its length. A preview of a short word allowed the reader to skip the word more frequently, whereas a preview of a longer word tended to shorten the fixation time on the word when it was later fixated.

RAYMAN, JAN, & ZAIDEL, ERAN. (1991, January). Rhyming and the right hemisphere. *Brain and Language, 40*, 89-105.

Determines hemispheric roles in judgments of rhyming. Subjects were 40 college undergraduates who determined whether two successively presented and orthographically different words rhymed. Stimuli were presented on the computer. The first word was presented at fixation and the second was presented to the right or the left of the fixation. Words were presented alone (unilateral presentation) or with a distractor word in the other visual hemifield (bilateral presentation). The subject's task was to decide whether the word rhymed with the first word. Reaction times were recorded. Each subject participated in a practice session of 32 trials and then two blocks of 40 test trials. Subjects were more accurate when the two words did not rhyme, when the presentation was unilateral, and when the target was flashed to the right rather than the left visual hemifield. Greater laterality effects were observed for bilaterally presented rhyming words, but nonrhyming words showed similar laterality effects for both bilateral and unilateral presentations. Results suggested that responses to rhyming and nonrhyming may be produced by two different processes in differing levels of competence in the left and right hemispheres.

RUGG, MICHAEL D. (1990, July). Event-related brain potentials dissociate repetition effects of high- and low-frequency words. *Memory & Cognition, 18*, 367-379.

Compares event-related brain potentials (ERPs) evoked by the repetition of high- and low-frequency words and attempts to determine whether the effects of word frequency and delay between successive presentations parallel those found on behavioral variables. Subjects were 16 young adults whose ERPs were recorded as they detected nonwords interspersed among sequences of high- and low-frequency words. The study was conducted in two phases. In Phase 1, four lists of words were formed, each containing high- and low-frequency words along with nonwords. A proportion of the words were repeated after six intervening items. Phase 2 followed after a period of 15 minutes and the words presented were either repeats of those presented in Phase 1 or new. The findings revealed that unrepeated low-frequency words evoked larger N400 (a negative-going deflection that attains its maximum amplitude around 400 msec poststimulus) components than did high-frequency items. No frequency effects were noted on N400s evoked by repeated words. Additionally, the post-500-msec latency region of the ERPs exhibited a substantial repetition effect for low-frequency words but did not differentiate unrepeated and repeated high-frequency words. ERPs evoked in Phase 2 by old and new high-frequency words did not differ in any latency region, but those evoked by old and new low-frequency words differed only after 500 msec. The author notes that the interactive effects of frequency and repetition suggest that these variables act jointly at multiple loci during the processing of a word.

VAN PETTEN, CYMA, & KUTAS, MARTA. (1990, July). Interactions between sentence context and word frequency in event-related brain potentials. *Memory & Cognition, 18*, 380-393.

Reports results of two experiments in which event-related potentials (ERPs) were recorded as subjects silently read a set of unrelated sentences. Subjects in both experiments were young adults (n=43 and 31, respectively) who were paid to participate. In Experiment 1, stimulus materials consisted of 338 unrelated sentences whose terminal words were either predictable or semantically constrained. Sentences were presented in sets of 20. Following each sentence, a problem word and a letter of the alphabet were presented sequentially. Open-class words (nouns, verbs, adjectives, and -ly adverbs) were categorized according to sentence position (first, middle, and final) and word frequency. Subjects were to determine whether the letter had been present in the probe word. Stimulus presentation, task, and instructions were similar in Experiment 2. ERP responses elicited by open-class words were sorted according to word frequency and the ordinal position of the eliciting word within its sentence. Findings revealed a strong inverse relation between sentence position and the amplitude of the N400 component of the ESP. Less frequent words were associated with larger N44s than were more frequent words, but only if the eliciting words occurred early in the sentence. The authors interpreted the interaction between sentence position and word frequency as an indication that frequency does not play a mandatory role in word recognition, but can be superseded by the contextual constraint provided by a sentence.

GROSSER, GEORGE S., & SPAFFORD, CAROL S. (1990, October). Light sensitivity in peripheral retinal fields of dyslexic and proficient readers. *Perceptual and Motor Skills, 71*, 467-477.

Examines and compares thresholds for light-intensity for small retinal areas of dyslexic and proficient readers. Subjects included eight dyslexic college students and eight controls, matched for age, SES, and IQ. In comparing the peripheral fields of the two groups, a one-tailed independent t test was conducted on the averaged sensitivity totals. Normal readers were better able to detect faint lights with peripheral retinal vision than were dyslexics. It is concluded that the findings lend support to the premise that the retinals of dyslexics have unusually high cone density in the periphery.

ROBINSON, GREGORY L.W., & CONWAY, ROBERT N.F. (1990, December). The effects of Irlen colored lenses on students' specific reading skills and their perception of ability: A 12-month validity study. *Journal of Learning Disabilities, 23*, 589-596.

Studies, over a 12-month period, the effects of wearing tinted nonoptical (Irlen) lenses on students' reading skills and perception of ability. Subjects were 44 children, ages 9.1 to 15.11, identified as having scotopic sensitivity on the Irlen Differential Perceptual Schedule. Initial testing on the WISC-R and the NARA, Form A, placed each subject within the average range of ability, but reading considerably below capacity. Also administered to subjects as part of initial testing was the Students' Perception of Ability Scale (SPAS). Within two weeks following initial testing, subjects were provided with an intermediate set of lenses tinted in one of five colors according to each subject's preference. Three months after receiving the intermediate set of lenses, each subject was reassessed on the NARA, Form B, and supplied with optimum tint lenses. Reading skills were again assessed on Forms C and D of the NARA, three and six months respectively after the fitting of optimum tints. On these latter two testing occasions, subjects also took the SPAS. Considering the yearly rate of progress made by the sample prior to initial testing, comparisons of means and standard deviations for subtests of the NARA administered over the four occasions indicated significant growth in reading comprehension and accuracy, but not rate. SPAS results across testing occasions also indicated significant improvement in subjects' attitudes toward school and basic academic skills.

BLASKEY, PENNI; SCHEIMAN, MITCHELL; PARISI, MARIA; CINER, ELISE B.; GALLAWAY, MICHAEL; & SELZNICK, RICHARD. (1990,December). The effectiveness of Irlen filters for improving reading performance: A pilot study. *Journal of Learning Disabilities, 23*, 604-612.

Pilots a study investigating the effectiveness of Irlen filters for improving reading performance and comfort. Additionally investigates whether traditional optometric intervention is an effective treatment approach for relieving symptoms commonly identified by individuals who seek help through the use of Irlen filters. Thirty subjects, ranging in age from 9 to 51 years old, were pre- and posttested with a complete optometric vision examination, a battery of reading tests (WRMT, GORT, SDRT, Letter naming, and Irlen Clinic test of random letters), WISC-R or WAIS-R, the Irlen screening battery, and an optometric symptom questionnaire. Subjects were divided randomly into two treatment groups of 11 each (an Irlen treatment group and a vision therapy treatment group) and a control group of 8. All subjects in the Irlen treatment group received Irlen filters, with the tint selected by an Irlen Clinic examiner, as well as a second pair of filters with an ordinary tint (placebo tint). The filters were given randomly to subjects who tried each set for two weeks and then were asked to select the ones that made them more comfortable and to wear that set for two more weeks. Posttesting was done using the preferred filters. Subjects in the vision therapy treatment were treated once or twice each week and were given additional vision therapy procedures to do at home. Of the 11 subjects in the Irlen filter group, three chose the placebo filters as their preferred filter. These three subjects showed no significant pre-posttest differences on measures of discomfort, while there was a significant reduction in symptom scores for the other 8 in the Irlen group. Results of reading measures for the Irlen group indicated a significant increase on the WRMT and in speed of letter naming. All other reading measures revealed no significant change. Posttesting of the 8 subjects who completed the vision therapy treatment indicated significant differences in the symptom questionnaire, the scotopic sensitivity score, and the passage score on the GORT. The three control subjects who completed all pre- and posttesting showed no significant changes on any of the measures.

HANNELL, GLYNIS; GOLE, GLEN A.; DIBDEN, SHIRLEY N.; ROONEY, KEVIN F.; & PIDGEON, KENNETH J. (1991, February). Reading improvement with tinted lenses: A report of two cases. *Journal of Research in Reading, 14*, 56-71.

Reports the effects of tinted lenses on reading performance of dyslexic boys. The subjects, 9 and 12 years of age, both had a history of reading, speech, and language difficulty but were of at least average ability. Subjects were asked to read from the NARA with and without transparent plastic overlays or spectacle lenses tinted to preference. A substantial improvement in oral reading was noted when subjects used overlays or tinted lenses. For one or both boys, other testing indicated use of overlays or tinted lenses resulted in improved visual acuity, better sentence and pattern copying, heightened figure ground perception, and improved perception of spaces between words.

IRLEN, HELEN, & LASS, MARY JO. (1989, Summer). Improving reading problems due to symptoms of Scotopic Sensitivity Syndrome using Irlen lenses and overlays. *Education, 109*, 413-417.

Describes symptoms related to Scotopic Sensitivity Syndrome and reviews research on its incidence and treatment. The article also discusses various diagnostic and instructional implications for this visual-perceptual dysfunction.

MORTON, L.L., & SIEGEL, L.S. (1991, February). Left ear dichotic listening performance on consonant-vowel combinations and digits in subtypes of reading-disabled children. *Brain and Language, 40*, 162-180.

Compares the left ear dichotic listening performance on consonant-vowel (CV) combinations and digits in subtypes of reading disabled children. The sample was composed of 80 right-handed male children drawn from 14 schools. Twenty reading comprehension disabled (CD) subjects were matched with 20 reading comprehension and word recognition disabled (CWRD) subjects on chronological age, IQ, and reading achievement (SDRT). Two normal-achieving control groups of 20 subjects each – a chronological age-matched control group (AMC) and a reading comprehension level-matched control group (RLMC) – were selected from regular classes. Word recognition was determined by the WRAT. All children were of average IQ; no differences in verbal ability were observed between groups. Subjects were tested for left ear report on dichotic listening tasks using digits and CV combinations. Examination revealed that the two tasks were not correlated. Further analyses of the data were completed using a series of ANOVAS, revealing that the two RD subgroups exhibited some responses that were age appropriate, some responses which indicated a developmental delay, and some responses that were unique. Both RD groups showed lower left ear report on digits. On CVS, the CD group showed a high left ear report but only when there were no priming precursors, such as directions to attend right first and to process digits first. Priming effects interfered with the processing of both digits and CVS. It was suggested that theoretically, the CWRD group seemed to be characterized by a depressed right hemisphere, whereas the CD group displayed a more labile right hemisphere, perhaps tending to overengagement for CV tasks but vulnerable to situational precursors in the form of priming effects.

IRWIN, DAVID E.; ZACKS, JAMES L.; & BROWN, JOSEPH S. (1990, January). Visual memory and the perception of a stable visual environment. *Perception and Psychophysics, 47,* 35-46.

Details three experiments testing two alternative hypotheses of perceptual stability. The subjects for Experiments 1 and 2 were one undergraduate student and two of the authors; for Experiment 3, four undergraduates and two of the authors participated. Experiments 1 and 2 failed to support the spatiotopic fusion hypothesis that suggests that the contents of successive fixations are fused in memory according to environmental coordinates. The results of these two experiments showed that one's ability to detect a grating presented after a saccade was unaffected by the presentation of a grating with the same spatial frequency in the same spatial location before the saccade. Therefore, there appeared to be no position-specific summation of visual information across eye movements. The second hypothesis, specifying that the contents of successive fixations are compared rather than fused across saccades, was supported. Results of Experiment 3 revealed that experienced subjects could accurately determine whether two patterns viewed in successive fixations were identical or different, even when the two patterns appeared in different spatial positions across the saccade. Taken together, these results suggested that perceptual stability and informational integration across saccades rely on memory for the relative positions of objects in the environment, rather than on the spatiotopic fusion of visual information from successive fixations.

IV-2 Sex differences

BEECH, JOHN R. (1989, December). Developmental lag in reading in relation to physical growth and sex differences. *Perceptual and Motor Skills, 69,* 748-750.

Examines the relation between physical growth and reading development in boys and girls between the ages of 4 and 8. Subjects were 100 boys and 100 girls from two single-sex schools in Northern Ireland. Subjects were administered the Schonell and the RPM as measures of reading development and IQ. In addition, subjects were measured for a variety of physical features including height, forehead circumference, and teeth maturity, with the head circumference of both parents being noted. A series of regression analyses revealed teeth maturity was significantly related to reading maturity for boys. No such relation was found for girls.

COLLIS, BETTY, & OLLILA, LLOYD. (1990, Fall). The effect of computer use on grade 1 children's gender stereotypes about reading, writing, and computer use. *Journal of Research and Development in Education, 24,* 14-20.

Compares the impact of three different first grade programs on sex stereotypes about reading, writing, and computer use. Subjects were 120 first graders from six classrooms, two in each of three different approaches. The three approaches involved were Writing-to-Read (WTR) Computer Intensive, WTR Computer Augmented, and Traditional. An adaptation of the Activity-Object Opinion Survey, a 16-item instrument, was administered to assess sex stereotype scores toward reading, writing, and using computers. No consistent sex association was noted for either reading or writing, but computer use was seen as a masculine activity, particularly by boys.

MURPHY, LAURA O., & ROSS, STEVEN M. (1990). Protagonist gender as a design variable in adapting mathematics story problems to learner interests. *Educational Technology, Research, & Development, 38,* 27-37.

Assesses the effect of protagonist gender on the ability and interest of junior high students when solving mathematics story problems. Subjects included 67 rural and 185 suburban eighth graders (135 females, 117 males). Students were assigned randomly within schools to conditions in which they completed problems with the preferred protagonist (male or female), the nonpreferred protagonist, or protagonists of both genders. Dependent variables were protagonist selections, problem-solving scores, and task attitudes. Other data collected included scores on state-administered standardized mathematics achievement tests, SES, gender attitudes, and ethnic group. Students were presented with two parallel series of eight mathematical story problems based on those found in the text used. One series conveyed either a male or a female oriented theme by the use of the names of the characters and the activities, occupations, tasks, and apparel identified; another set contained half female and half male characters. Gender attitudes were assessed by a 15-item form adapted for the study. Students favored instructional material featuring protagonists of their own gender, with females outperforming males, regardless of protagonist gender. For the rural group only, performance was higher for students who received preferred protagonist problems, especially for high ability students. Problem solving scores were not significantly related to gender or SES, but were significantly related to achievement test scores in math.

SHAPIRO, JON. (1990, July/September). Sex-role appropriateness of reading and reading instruction. *Reading Psychology: An International Quarterly, 11*, 241-269.

Reports results of two studies investigating aspects of primary grade children's attitudes toward reading as a sex-role appropriate behavior. For Study 1, 48 kindergarten children located in a suburb of Vancouver, British Columbia, were followed for two years (42 children remained in the study at the end of grade two). Children enrolled in a basal reader-based program were administered the Activity-Object Opinion Survey (AOOS) in the spring of kindergarten year and in October and April of grades 1 and 2. The AOOS is a picture measure of a subject's perception of the sex-role appropriateness of reading. In kindergarten, about half of each sex viewed reading as a sex-role appropriate activity; by spring of first grade, an increasing number of boys viewed reading and writing as inappropriate sex-role activities, while in second grade, girls viewed both as completely appropriate. In Study 2, 38 children in a whole language program were administered the AOOS in grades one and two. Both sexes found reading an appropriate sex-role activity at both grade levels. The author offers some conjectures about why children in one program changed in their view of reading as a sex-appropriate activity, while children in the whole language program did not.

IV-3 Intellectual abilities and reading

STANTON, WARREN R.; FEEHAN, MICHAEL; MCGEE, ROB; & SILVA, PHIL A. (1990, October). The relative value of reading ability and IQ as predictors of teacher-reported behavior problems. *Journal of Learning Disabilities, 23*, 514-517.

Examines the role of reading ability in the relation between intellectual performance and teacher-reported behavior problems. Subjects were 779 children in New Zealand. Data collected were a family adversity index over the years from birth to age 3; the Burt Word Reading Test-1974 Revision; and the PPVT, Stanford-Binet, and WISR-R taken at three different ages. Regression analyses were performed, with factors entered in the temporal order in which they would be expected to influence children's development. A significant effect on problem behavior at age 5 was found for each factor when the order was family adversity scale and IQ. A significant effect on change in problem behavior during school years was found when the factors were entered in the order of school-age IQ and reading ability. When reading ability was followed by school-age IQ in the equation, the school-age IQ scores did not account for a significant additional proportion of the variance in the problem behavior scores. Results suggest that the relation between intellectual performance and changes in problem behavior is mediated by reading ability.

JENKINSON, JOSEPHINE C. (1989). Word recognition and the nature of reading difficulty in children with an intellectual disability: A review. *International Journal of Disability, Development, and Education, 36*(1), 39-56.

Reviews the literature on word recognition and notes the similarities between performance of children with a specific reading disability and children with lower levels of mental functioning. Suggests that children with intellectual disability tend to show adequate word recognition skills for their mental age when whole or sight word methods for recognition are studied, rather than methods which put more emphasis on letter-sound correspondences. Persons with intellectual disability appear to have difficulties acquiring and applying a knowledge of common spelling rules or patterns, rather than problems of discriminating between letters, learning letter-sound association, or blending individual sounds to form words. Short term memory problems may be interfering.

HURD, ANGELA. (1990, November). Concept development and social interaction skills. *Reading, 24*, 127-132.

Examines the relation between social interaction skills and conceptual knowledge in nursery school children. Sixty-one nursery school children were administered individually an author devised concept screening test which assessed such areas as easy and hard vocabulary knowledge, verbs, functions, size attributes and relations, colors, prepositions, and negatives. Subjects who encountered difficulty with the concept screening test were further evaluated on the Reynell Developmental Language Scales (RDLS). The social interaction skills of all subjects were evaluated on an author constructed questionnaire. An analysis of the data derived from the author devised measure revealed a developmental trend for the acquisition of concept knowledge and social interaction skills and that the two factors were highly correlated. However, a number of subjects were found to have poor concept development in spite of good social interaction abilities. A high correlation coefficient was found between the concept screening measure and the RDLS in identifying children with severe language problems. Results support the theory that good social skills can mask inferior concept development.

IV-4 Modes of learning

MAYER, RICHARD E., & GALLINI, JOAN K. (1990, December). When is an illustration worth ten thousand words? *Journal of Educational Psychology, 82*, 715-726.

Reports a series of three experiments investigating the aspects of illustrations most likely to be effective in reading text explaining how scientific devices work. All three experiments used college students from the psychology student pool (n=96, 96, and 108). In Experiment 1, 24 students served in each of four groups with each group receiving a booklet about braking systems containing one of the following treatments: (1) no illustrations, (2) parts illustrations, (showing major parts within each type of braking system); (3) steps illustrations (showing the major actions occurring for each type of braking system); and (4) the parts-and-steps illustrations group. A student questionnaire and three posttests were administered: recall, 5-item problem solving, and verbatim recognition of eight sentences from the text. Experiments 2 and 3 essentially followed the same procedures but used different passages. In general, the findings indicated that the parts-and-steps illustrations (but not the other treatments) improved performance on recall on conceptual (but not nonconceptual) information and creative problem solving (but not verbatim retention). Results were obtained with low prior knowledge students but not high prior knowledge students. It was concluded that the cognitive conditions for effective illustrations in scientific text included appropriate text, tests, illustrations, and learners.

WESTMAN, ALIDA S. (1990, June). Picture books, not readers! Teachers use the wrong modality in presentations and students in studying. *Perceptual and Motor Skills, 70*, 840-842.

Compares the visual, auditory, and tactile processing capabilities of adult learners. Subjects were 26 women and 22 men enrolled in undergraduate psychology classes. Individually tested with the Swassing-Barbe Modality Index, subjects saw or felt successively longer sequences of common shapes behind an opaque screen, or heard successively longer series of named shapes. Presentation rates for all modalities were of 4 or 2 seconds in duration. Following each presentation in any modality, subjects were asked to indicate in the correct order the shapes they had experienced. A 2 (rate) x 2 (sexes) x 3 (modalities of presentation) repeated measures ANOVA revealed visual presentations led to significantly higher scores. Modality interacted with sex, with women tending to be better tactually than auditorily and men tending to be better auditorily than tactually. Longer rates of presentation resulted in more correct responses.

FEENAN, KELLY, & SNODGRASS, JOAN GAY. (1990, September). The effect of context on discrimination and bias in recognition memory for pictures and words. *Memory and Cognition, 18*, 515-527.

Designs two experiments to study the effects of context change on both discrimination and bias in recognition of simple line drawings and their names. Bias was determined by two measures previously shown to be theoretically independent of their associated discrimination measures. In Experiment 1, the effect of context change on studied single items (by pairing them with an associated item during testing) and on studied associated pairs (by testing them either as singles or re-paired with a new associated item during testing) was examined. Both pictures and words served as target stimuli. In Experiment 2, a rating of association strengths for the two types of associated pairs used in Experiment 1 was determined and then the effect of context change on studied pairs was assessed. Subjects were university students participating in introductory psychology courses (35 for Experiment 1, 36 for Experiment 2). To examine the possibility of changes in response bias as a result of context manipulation, the discrimination and bias indices of the two high-threshold and signal detection theories were examined. Four 2 (form) x 2 (context) x 2 (relation) within subjects' ANOVAS were performed on the four measures of discrimination and bias. All four measures showed a significant picture advantage and a significant same context advantage. Relation was significant only for the two bias measures. The results of Experiment 2, like Experiment 1, showed an expected picture superiority effect. However, unlike Experiment 1, Experiment 2 showed a decrement in recognition performance with context change for both measures of discrimination. The type of relation had no effect on recognition performance. Thus, although categorical pairs were judged to be more highly related than event pairs, subjects recognized category and

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event pairs equally well when intact, and evidenced the same decrement in recognition when context was changed.

CONNINE, CYNTHIA M.; MULLENIX, JOHN; SHERNOFF, EVE; & YELEN, JENNIFER. (1990, November). Word familiarity and frequency in visual and auditory word recognition. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 16*, 1084-1096.

Investigates, in four experiments, printed word frequency and subjective rated familiarity. Subjects were undergraduate students whose numbers ranged from 15 to 50 in the various experiments. Highly familiar words that differed in objective frequency and low-frequency words that differed in subjective frequency served as stimuli and were presented in the auditory and visual domain. In Experiment 1, a reaction time advantage for high-familiarity and high-frequency words was found in visual lexical decision, while the same results were found in Experiment 2 in auditory lexical decision. In the final two experiments, a cued naming task elicited a naming response after a specified delay after presentation. Naming of visual words in Experiment 3 showed a frequency effect with no naming delay. The frequency effect diminished at longer delay intervals. Naming times for auditorily presented words in Experiment 4 showed no frequency effect at delay. Both naming experiments showed familiarity effects. The authors discuss the relevance of their findings in terms of the role of printed frequency for theories of lexical access, task- and modality-specific effects, and the nature of subjective familiarity.

YUSSEN, STEVE R., & SMITH, M. CECIL. (1990, July). Detecting general and specific errors in expository texts. *Contemporary Educational Psychology, 15*, 224-240.

Considers the ability to detect two types of errors under two modes of processing text, listening and reading. Three experiments are reported, all using undergraduate educational psychology students as subjects, with participants numbering 48, 60, and 40, respectively. In the three experiments, students were either to read or to listen to expository passages containing several errors. Errors were either general or specific. General errors consisted of a key, topical statement in a paragraph that contradicted details that should follow logically; specific errors were ideas that contradicted one another in a single sentence. The task was to identify any mistakes contained in each paragraph as it was presented or shortly thereafter. For Experiment 1, students had the opportunity to read and/or listen twice to half of the 300-word long passages, each containing five paragraphs. In Experiment 2, the reading texts were presented on a computer monitor, and two additional tests were administered to establish cognitive correlates of error detection performance. Experiment 3 replicated the second experiment with slight variations. General errors were easier to identify than specific errors. Working verbal memory and vocabulary were not highly predictive of error detection performance, although vocabulary and general reading achievement were highly associated with performance in two specific conditions. Little difference was found in error detection between the two modality conditions.

KAMEENUI, EDWARD J.; SIMMONS, DEBORAH C.; & DARCH, CRAIG B. (1987, Summer). LD children's comprehension of selected textual features: Effects of proximity of information. *Learning Disabilities Quarterly, 10*, 237-248.

Examines LD pupils' ability to understand narrative text when the physical proximity of information deemed important for solving the goal statement is systematically varied within the text. Participants were 29 elementary aged children from five resource rooms in five public schools, all classified as LD. Subjects read or listened to six stories in either the dispersed condition or the collapsed condition. In the former, text features were presented in the following order: (1) goal statement, (2) irrelevant information, (3) rule statement, (4) distracting information, and (5) critical statement. In the latter, the same text features were presented, but those required to solve the goal statement (the rule and critical statements) occurred in close proximity. After reading or listening to each narrative, the subject was asked a comprehension question explicitly pertaining to one of the five features. Each question required a choice between two options addressed in each narrative, and a justification for the chosen responses. Repeated measures ANOVA procedures revealed no significant differences between reading and listening modes of presentation on either measure. However, children were more successful in understanding and recalling texts with collapsed information than dispersed information.

IV-5 Experiments in learning

GROLLER, KATHRYN L.; KENDER, JOSEPH P.; & HONEYMAN, DAVID S. (1991, March). Does instruction on metacognitive strategies help high school students use advance organizers? *Journal of Reading, 34,* 470-475.

Explores whether using an advance organizer along with metacognitive strategies would help high school students learn content material and whether repeated use of this approach would produce gains over time. Subjects were 45 eleventh grade students who scored above the 80th percentile on the Advanced 2 Level of the MAT. Passages from philosophy texts were selected as treatment materials for the three groups: Group 1 used an advance organizer with metacognitive input, Group 2 used an advance organizer without metacognitive instruction, and Group 3 received an introductory passage only. Two days later, Groups 1 and 2 read the advance organizer again, while Group 3 read the introductory passage. Each group then read the same passage and took the same short-answer recall test. The same process was repeated three times within three months, using different materials. Significant differences were found between Group 1 and Group 2 and between Group 1 and Group 3 in immediate recall tests. Significant differences ($p < .02$) were found over time, with growth between scores from the first and third sessions, but not between the second and third.

SPIRES, HILLER A., & SCHMELZER, RONALD M. (1990, Fall). Effects of interspersed adjunct questions on comprehension monitoring: Implications for postsecondary reading instruction. *Research and Teaching in Developmental Education, 7,* 19-24.

Reports on the effects of interspersed adjunct questions on comprehension and comprehension monitoring of good and poor college readers. The sample comprised 105 college students who were considered good readers and 53 college students who were enrolled in a developmental reading course due to low reading ability. Students were assigned randomly to the treatment or control conditions. The treatment group read passages which were interrupted five times with directions to summarize the main idea. The control group read the same passages with no directions. Both groups answered a 20 question multiple-choice test and were asked to predict the accuracy of their answers. There were no differences found between the two groups on the comprehension measure; however, the low reading treatment group did better on predicting the accuracy of their answers. Findings indicate that adjunct questions did not improve the comprehension of a passage but may help poor readers become more alert to comprehension during the process.

HEALY, VIVIAN C. (1989, October). The effects of advance organizer and prerequisite knowledge passages on the learning and retention of science concepts. *Journal of Research in Science Teaching, 26,* 627-642.

Compares the effects of two pretreatments, an advance organizer and a prerequisite knowledge passage, on the learning and retention of low (knowledge and comprehension) and high (application and analysis) levels of the cognitive domain. Subjects, 59 ninth grade science students enrolled in a physics class, completed an eight-item framework test and an eight-item prerequisite knowledge test prior to the beginning of instruction. An ANOVA, with IQ as the covariate, was performed on the framework test and the prerequisite knowledge test. The advance organizer group performed significantly better than the prerequisite knowledge group ($p < .001$) on the first framework test, and the prerequisite knowledge group performed significantly better ($p < .001$) than the advance organizer group on the prerequisite knowledge test. After 21 days of instruction for the posttest and 40 days of instruction for the retention test, an ANCOVA, with IQ as the covariate, on low-level questions, high-level questions, and total scores for the 20 multiple-choice item posttest and retention test (same items as posttest, but rotated position) yielded no significant differences for either the posttest or retention test. The advance organizer did not facilitate learning and retention more than the preinstruction treatment that concentrated on developing prerequisite knowledge.

LAVERY, RAYMOND H., & STRAW, STANLEY B. (1990, Winter). Reflecting on literature: Helping students make sense of what they read. *Reflections on Canadian Literacy, 8,* 139-144.

Reports two informal studies designed to investigate how teachers might affect the purposes that students employ during reading and how they might effect a change from information-driven reading to point-driven reading or response. Investigation 1 examined the effect of prereading organizers on 53 tenth grade students' responses to short stories. Each student experienced three conditions: an advance organizer encouraging story-driven reading; an advance organizer encouraging point-driven reading; and no advance organizer. Students wrote open-ended responses to each story. In Investigation 2, 68 tenth graders read in two conditions, one for each of two different short stories: reading the short story, reading the point-driven organizer, and writing a response to the story; and reading a short story, no organizer, and writing a response to the short story. No significant differences were found among the three conditions of Investigation 1. In Investigation 2, there was a positive effect ($p > .05$) in favor of the point-driven organizer. Results suggest that students may be more affected by postreading motivators than by prereading motivators.

VAN DAM, GERRIT, & BRINKERINK-CARLIER, MICHELE. (1990, April). Free recall of a text containing isolated paragraphs only. *Perceptual and Motor Skills, 70,* 523-530.

Conducts two experiments designed to study whether interparagraph effects are obtained with a text containing isolated paragraphs which do not refer to one another. Subjects for Experiment 1 were 36 undergraduates at the University of Utrecht, who were paid for participating. Experiment 2 had 13 subjects similar to those in Experiment 1. Materials consisted of an expository passage of 650 words about a fictitious ancient Egyptian pyramid. The passage was composed of 20 self-contained paragraphs, with odd numbered paragraphs dealing with aspects of the pyramid itself (Pyramid Related, or PR) and even numbered paragraphs dealing with descriptions of adjacent objects of interest (Objects Related to Pyramids, or ORP). In the PR condition, each pyramid paragraph was altered so that it referred to the next paragraph of the same kind. For the ORP condition, the object paragraphs were reformulated so that a cue was inserted that referred to one of the pyramid paragraphs. Subjects were randomly assigned to either a control or one of the experimental conditions. They were given 15 minutes to study the text and told that they would be asked to orally reproduce the contents. Tape recorded reproductions were scored for gist recall of paragraphs. Recall was facilitated when paragraphs were adapted to refer to a succeeding paragraph. In Experiment 2, subjects' recall was facilitated when they were asked to write their recall of ORP paragraphs.

Dee-Lucas, Diana, & Larkin, Jill H. (1990, December). Organization and comprehensibility in scientific proofs, or "Consider a particle p...." *Journal of Educational Psychology, 82,* 701-714.

Reports three experiments contrasting the ease of comprehension of the principle-first and proof-first organizations in science and math texts for readers unfamiliar with the proof-first structure. Pairs of passages were constructed in which the same principle and proof information was presented in both organizational structures in scientific text, with the difference between the two texts being whether the proof segment was presented before or after the principle segment. All experiments employed undergraduates who had not completed more than one year of college-level physics as subjects (n=24, 20, and 26). Experiment 1 studied the effects on reading times and on the organization of subjects' text summaries; Experiment 2 researched differences in the perceived importance of the information and in the ability of subjects to predict what was important as they were reading; and Experiment 3 examined differences in immediate and long term recall of text content. Students had greater difficulty determining what was important when reading proof-first texts and reorganized proof-first texts into a principle-first structure when they summarized the text. The proof-first organization also decreased recall of the principle.

Bernard, Robert M. (1990). Effects of processing instructions on the usefulness of a graphic organizer and structural cueing in text. *Instructional Science, 19,* 207-217.

Attempts to assess the separate effects of structural cueing and graphic organizer processing on readers' recall of related idea units. The sample consisted of 159 subjects who were enrolled in a first year hotel/business management course at a junior college. Subjects were assigned randomly to one of four treatment conditions that provided the presence or absence of either structural cueing or graphic organizers accompanying the reading of one expository segment of text adopted from a textbook on management. The dependent variable was a cued recall instrument with 11 questions requiring factual answers derived from the textual content of one passage. Items were scored by considering both the number of idea units generated and the correctness of each response. ANCOVA techniques, using scores from the NDRT as the covariate, revealed a significant interaction among the three independent variables. Additional procedures showed that high level readers were the only subjects who profited from the processing instructions, and only in the presence of cueing. Middle level readers benefited from cueing in both conditions of processing instructions, while low level readers were able to take advantage of cueing only in the absence of processing instructions.

Wang, Tianyu, & Andre, Thomas. (1991, April). Conceptual change text versus traditional text and application questions versus no questions in learning about electricity. *Contemporary Educational Psychology, 16,* 103-116.

Studies the effects of two independent variables—text type and question type—on learning electricity concepts. The 139 college students who served as subjects read material dealing with basic electrical concepts. The traditional text was constructed by adapting parts of two secondary school texts. In the experimental or conceptual change text, diagrams to elicit common misconceptions were inserted into the text along with evidence that demonstrated that common preconceptions would lead to incorrect predictions. After students had been confronted by evidence countering the misconceptions, the text provided them with the correct scientific explanations. For half the students in the traditional text and half in the conceptual change conditions, adjunct application questions were added to the texts. These latter questions were in addition to conceptual change questions asked in the experimental text. A 78-item posttest was administered to assess qualitative understanding of the concepts presented and to assess ability to calculate voltage, current, or resistance. Three scores were obtained from the posttest: a conceptual score, a calculation score, and a score designed to classify students from the perspective of one of five models of series circuits. A similar type pretest was administered to half of the subjects and a placebo test given to the other half. The conceptual change text condition resulted in superior acquisition of qualitative concepts, but only when subjects had not taken a pretest. Subjects receiving the application questions performed better than subjects who received no questions, but only when they were not given a pretest.

McCutchen, Deborah; Bell, Laura C.; France, Ilene M.; & Perfetti, Charles A. (1991). Phoneme-specific interference in reading: The tongue-twister effect revisited. *Reading Research Quarterly, 26*, 87-102.

Reports two studies examining the tongue twister effect of phoneme-specific interference in silent reading. Experiment 1 examines whether the tongue twister effect of reading words with similar initial phonemes is a memory and visual phenomenon or a phonological phenomenon. College students read sentences containing tongue twisters and judged sentence acceptability. In a second condition, subjects combined a sentence judgment task with a digit recall task. Students took longer to judge the semantic acceptability of sentences containing tongue twisters than matched control sentences. When working memory was preloaded with digits, phonetic interference was observed. Results suggest that the tongue twister effect is within working memory. In Experiment 2, using similar methodology but using a lexical decision task where subjects judged word strings to determine whether nonwords were present when words contained the same initial consonant or mixed initial consonants, no tongue twister effect was found and memory performance did not show a specific interference effect. The tongue twister effect seems to occur during memory and comprehension processes involved in sentence processing, not during word reading.

Henry, Lucy A. (1991, February). The effects of word length and phonemic similarity in young children's short-term memory. *Quarterly Journal of Experimental Psychology, 43A*, 35-52.

Conducts two experiments to test the hypothesis that word length and phonemic similarity effects in young children's recall with auditory presentation result from verbal output and not from rehearsal or confusion. Experiment 1 tested whether word length effects in children ages 5 (n=32) and 7 (n=32) years resulted from full verbal recall or rehearsal. Subjects were allocated to the two probe conditions (auditory or spatial) and matched on vocabulary knowledge (British Picture Vocabulary Scale). The design was Word Length (short, long) x Probe Type (auditory, spatial) x List Length (short, long) x Order (short or long words first). Data for each age group were subjected to separate ANOVAS. The results revealed that 7 year olds showed the word length effect and the 5 year olds did not. Both ages performed better on shorter list lengths, and the younger children showed a practice effect at the shorter list length. Experiment 2 was conducted with additional 5 (n=10) and 7 (n=10) year olds. The design was Age x Word Length (short, long). The procedures and materials applied in Experiment 1 were replicated. The data were analyzed using ANOVA with repeated measures on word length. Significant effects of word length and age were observed; there was no interaction between age and word length. The results confirmed that in the standard procedure using auditory presentation and full verbal recall, 5 year olds do show an effect of word length on recall.

Dickenson, Donald J.; & O'Connell, Debra Q. (1990, March/April). Effect of quality and quantity of study on student grades. *Journal of Educational Research, 83*, 227-231.

Investigates the relation between time spent studying and test scores for undergraduates enrolled in a course on learning principles and classroom management. The 113 students were asked to log the amount of time they spend reading, reviewing, and organizing for the class. On average, about three hours per week were reported for studying, with the emphasis on reading and reviewing. Average number of minutes per week was correlated with total scores on tests in the course. Pearson correlation coefficients ranged from .05 with reading to .48 with organizing. Students who scored higher on the tests averaged 32 minutes more per week organizing than did low-scoring subjects.

DUNNE, MICHAEL P.; ROCHE, FIONA; & HARTLEY, LAURENCE R. (1990, May). Effects of time of day on immediate recall and sustained retrieval from semantic memory. *Journal of General Psychology, 117,* 403-410.

Examines the question of whether episodic and semantic memory can be dissociated in terms of the effects of time of day. The research aimed to replicate the observation of a morning advantage in list learning and to find evidence for more efficient access to semantic memory in the evening. Sixteen undergraduate psychology students were administered several different measures of memory, including conventional tests of episodic memory (recall and recognition of list materials) and a continuous retrieval task (requiring subjects to retrieve members of natural semantic categories in timed conditions). Subjects were randomly assigned to morning or evening conditions. A repeated measures ANOVA found significant effects for time of day. Immediate recall was superior in the morning. Although there was no effect for time of day on recognition judgments, recognitions were more probable for previously presented words; semantically related distractors were falsely recognized more than were semantically unrelated distractors. The ability to sustain search of semantic memory (over 8 minutes per category) was superior in the evening, providing evidence that time of day influences the efficiency of sustained retrieval from semantic memory, and providing argument that the two memory systems (episodic and semantic) may be phenomenologically distinct.

LOW, RENAE, & OVER, RAY. (1989, November). Detection of missing and irrelevant information within algebraic story problems. *British Journal of Educational Psychology, 59,* 296-305.

Assesses the ability of students to detect missing information relevant to the solution of algebraic story problems. Included were 72 tenth grade students from a Melbourne, Australia, coeducational school. Five sets of exercises were prepared, each differing in the task requirement and in format. Each set contained between 8 and 20 problems. In two formats requiring text editing, students were to indicate what information essential to solution was missing and to identify irrelevant information within problems. In a third format, they were to solve the problems. The fourth format required recognition of previously seen problems. The fifth format consisted of five sets of algebraic problems, and students were to identify the problem in each set that was different from the other three. Ability to edit text was predictive of problem solution rates. Ability to identify the information needed for solution of a problem accounted for 90% of the variance in the solution rates for the same problems.

GOODING, K., & FORREST, D. (1990, June). An examination of the difference between the interpretation of screen based and printed maps. *Cartographic Journal, 27,* 15-19.

Designs an experiment to test whether subjects' map reading performance using video images of printed maps will be as good as when using the original printed map. Sixty first year geography students were asked to perform 25 simple map reading tasks involving locating, counting, or naming symbols in different colors. Subjects were assigned to either a conventional map or to the same map areas presented on a computer monitor. Subjects were first to study a key to the map and then to answer questions. Number of correct responses and time taken were recorded. The number of correct responses was significantly higher for the paper maps, while mean times were approximately equal.

WADDILL, PAULA J.; MCDANIEL, MARK A.; & EINSTEIN, GILLES O. (1988, December). Illustrations as adjuncts to prose: A text-appropriate processing approach. *Journal of Educational Psychology, 80,* 457-464.

Evaluates pictorial effects on memory of text as a function of text type and information bearing nature of pictures. In Experiment 1, 72 college students read a fairy tale or an expository selection accompanied by no picture, pictures depicting details about the text, or pictures depicting relations among propositions in the text. A 2 text type (narrative vs. expository) × 3 picture condition (control/no picture, detail picture, relational picture) factorial design was submitted to planned comparison ANOVA procedures. Recall of expository text was best facilitated by detail pictures, while recall of fairy tale pictures was best facilitated by relational pictures. These results suggested that narrative texts such as fairy tales invite processing of propositional relations within them while expository texts invite detail processing. In Experiment 2, 72 college students were given instructional directives to focus on the type of information not presumed to be invited by the text (i.e. propositional relations for expository texts and details for narrative). With the addition of instructional directives, pictures significantly facilitated recall of information not normally encoded in narrative. A trend for directives to enhance pictorial effects on recall of relations in exposition also was noted. The results of Experiments 1 and 2 support the idea that pictures primarily enhance presentation of information for which the text invites processing. Instructional directives do help readers to attend and extract information that is usually difficult to process.

KLINE, SHERYL, & GRONINGER, LOWELL D. (1991, January). The imagery bizarreness effect as a function of sentence complexity and presentation time. *Bulletin of the Psychonomic Society, 29,* 25-27.

Carries out two experiments examining the relation between the bizarreness effect, sentence complexity, and presentation time. The bizarreness effect has to do with the thesis that more words are recalled from bizarre images than from common images. In Experiment 1, 20 subjects were assigned at random to each of six groups. Two stimulus lists of 12 sentences each were constructed for both simple and complex sentences, with each list containing 6 common and 6 bizarre sentences. The target noun pairs within each sentence were capitalized and underlined. Subjects were told to visualize the relation between the target noun pairs in each sentence, then asked to rate the vividness of the sentence on a 5-point scale. Presentation and rating times varied among the six groups. Following a distraction task, subjects were asked to recall as many of the underlined nouns from the stimulus list as possible. In the simple sentence conditions, the bizarreness effect was not influenced by processing time. For complex sentences, an interaction was found such that nouns from common sentences were recalled better with an 11-second presentation, and nouns from bizarre sentences were recalled better with a 15-second presentation rate. Experiment 2 replicated the findings of Experiment 2.

KROLL, JUDITH F. (1990, September). Recognizing words and pictures in sentence contexts: A test of lexical modularity. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 16,* 747-759.

Reports two experiments investigating the influence of sentence context on recognition of pictures and words. Participants for both studies included 16 college undergraduate students. The purpose of the first experiment was to determine whether sentence context would influence the recognition of pictured objects. Subjects viewed sentence fragments followed by words or nonwords for lexical decision and sentence fragments followed by pictures of real or pseudo-objects for object decision. Materials consisted of 64 sentence fragments completed by a picturable noun to form a sentence. Sentences were presented tachistoscopically in four conditions in which they were completed by: (1) a related or an unrelated noun, (2) a nonword, (3) a related or an unrelated picture, or (4) a picture of a nonobject. Subjects were told to respond as quickly as possible by pressing a yes button if they saw a real word or object and a no button if they saw a nonword or nonobject. Experiment 2 was essentially similar in nature. In both experiments the findings showed similar effects of context for words and pictures. Mixed conditions produced longer response latencies than blocked conditions but did not interact with the context effect. It was concluded that the finding of no interaction between the effect of context and the mixed-blocked manipulation supported a version of lexical modularity in which context effects arise as a function of postaccess integration processing.

MILLER, GLORIA E., & PRESSLEY, MICHAEL. (1989, December). Picture versus question elaboration on young children's learning of sentences containing high- and low-probability content. *Journal of Experimental Child Psychology, 48,* 431-450.

Studies, in two experiments, the effects of pictures versus question elaboration on children's learning of sentence contexts. Subjects for both experiments were kindergarten and first grade children from four elementary schools. In Experiment 1, four groups of 16 children listened to and read 16 sentences, each of the form subject/verb/direct object/preposition/instrument. Half the sentences contained high-probability instruments, and half contained low-probability ones. As each sentence was read, one group saw partial picture adjuncts and answered why questions, the second saw partial picture adjuncts only, the third answered why questions only, and the fourth acted as a control by seeing only the typed sentence. After the 16 sentences were presented, subjects were asked to repeat each experimental sentence in its entirety in response to a what question cue pertaining to the subject. Recall scores were computed for whole sentences and for each sentence part. A series of repeated measures ANOVA procedures applied to the data showed partial pictures were superior in promoting sentence recall. Conversely, questions inhibited whole sentence recall, with more pronounced effects being observed on high- compared to low-probability sentences. High-probability instruments were most negatively affected by questions. Materials and procedures for Experiment 2 replicated Experiment 1, except that complete pictures were used as substitutes for partial pictures. As in Experiment 1, questions significantly inhibited recall of high-probability sentences, with instruments being most negatively affected.

WADE, SUZANNE E., & ADAMS, ROBERT B. (1990, December). Effects of importance and interest on recall of biographical text. *Journal of Reading Behavior, 22,* 331-353.

Investigates in two experiments two characteristics of texts (structural importance, text-based interest) that affect what readers remember from their reading. In the first, 52 college subjects rated sentences for interest and importance, which were found to be highly related. Four categories of sentences were determined: high importance/high interest, high importance/low interest, low importance/high interest, and low importance/low interest. Subjects read a 1,700-word biography and rated each sentence for interest or importance; a week later they rated the biography for the other characteristic. Three analyses were performed: a repeated measures ANOVA, a repeated measures change test, and a content analysis to determine types of information included in the four categories. Importance and interest were highly correlated; most sentences were categorized as high importance/high interest or low importance/low interest. Main ideas were rated as important and interesting; minor factual details were rated unimportant and uninteresting. The second experiment tested the recall of a similar group of 48 college students, either immediately after reading the selection or one week later. The two categories remembered best were seductive details (low importance/high interest) and main ideas, both rated as interesting. Least well remembered were the details supporting main ideas, rated important but uninteresting.

MARFO, KOFI, & RYAN, ROBERT F.P. (1990, September). A comparison of average and poor readers in their recall performance, strategy use, and metamemory. *Alberta Journal of Educational Research, 36,* 241-255.

Reports two studies designed to (1) test the management hypothesis; (2) assess the relative metacognitive knowledge level of average and poor readers; and (3) ascertain the extent to which recall performance, strategy use, and metacognition are interrelated. Experiment 1 employed the central versus incidental memory paradigm to examine the extent to which explicit instruction to memorize for later recall makes a difference in the recall performance of average and poor readers. Experiment 2 examined between-group differences in recall performance, strategic behavior, and metacognitive knowledge, and explored the interrelationships among the variables. Forty-eight fourth graders from 10 schools in Newfoundland participated in the study. Scores on the CCAT were used for matching groups and scores on the CTBS were used for assigning to average and poor reader classifications. Both experiments used picture tasks. Subjects completed recall and metamemory tasks, and were interviewed about memorization strategies. They also completed a conceptual classification activity. Intentional memory was superior to unintentional memory. Average achievers were superior to poor readers in strategy use and metamemory, but both groups exhibited a low level of strategy sophistication and production deficiencies often associated with low ability and learning disabled students. Across groups, significant intercorrelations were found among strategy use, metacognitive knowledge, and recall performance. For poor readers, the metacognition-recall performance link was weak.

TUDOR, IAN. (1988, December). A comparative study of the effect of two prereading formats on L2 reading comprehension. *RELC Journal, 19,* 71-86.

Compares the effectiveness of two prereading formats, one constrained (text summary) and one open (personal response to prequestions), for 212 Belgian university students enrolled in compulsory English courses. Texts were presented in a cloze format, and subjects could respond in either English, their second language, or French, their first language. Three English proficiency levels were designated. Each subject received two cloze passages preceded by the prereading materials and followed by a questionnaire which asked for subjects' assessment of either text difficulty and topic familiarity (control group) or usefulness of the prereading format received (experimental group). All subjects received the same time allocation for the task. For the lowest of the three L2 proficiency groups, both summary and prequestions were facilitative, with summary yielding slightly higher facilitation than prequestions. No differences were noted for students with higher language proficiency. Questionnaire ratings of those in the high proficiency group did not differ significantly from ratings of those in the lower language groups. Students reported that the summary format helped their comprehension more than did the prequestions.

SKAGGS, LISA P.; ROCKLIN, THOMAS R.; DANSEREAU, DONALD F.; HALL, RICHARD H.; O'DONNELL, ANGELA M.; LAMBIOTTE, JUDITH G.; & YOUNG, MICHAEL D. (1990, January). Dyadic learning of technical material: Individual differences, social interaction, and recall. *Contemporary Educational Psychology, 15,* 47-63.

Investigates the relation among special individual characteristics, interaction patterns exhibited by dyads in a cooperative learning situation, and recall of studied technical information. Subjects were 62 university students who were paired randomly with same sex partners to form 14 male and 17 female dyads. All subjects were administered various measures of general ability, personality, and learning skills. Dyads then read and studied a selection which included procedural and structural/functional information pertaining to a piece of technical equipment. As dyads progressed through the material, they periodically stopped to summarize what they had learned to one another. Audiotapes of each dyad's verbal interactions as they summarized were made, and tests of each subject's free recall and cued recall of information learned were given. Cognitive and metacognitive idea units uttered by each subject during dyadic summarizations were noted in terms of frequency and duration. Cluster analyses and subsequent ANOVA procedures applied to the data indicated the existence of a positive relation among verbal ability, field independence, and recall of structural/functional information which included pictorial representations of equipment. Recall of procedural information was related to high performance on a measure of higher level comprehension. Verbal utterances pertaining to passage content rather than processing behavior best facilitated recall of visually presented information.

SWANSON, H. LEE; REFFEL, JAMES; & TRAHAN, MARCY. (1991, April). Naturalistic memory in learning-disabled and skilled readers. *Journal of Abnormal Child Psychology, 19,* 117-147.

Reports three experiments structured to compare LD and skilled readers' performance on naturalistic memory measures and to investigate the relation between memory performance on everyday and laboratory tasks. In Experiment 1, involving fourth and fifth grade children, the laboratory task (sentence span task) and everyday memory measures were correlated moderately for both ability groups. Compared to skilled readers, LD subjects performed poorly on the sentence span task and were less likely than skilled readers to remember information related to common objects and consequential events. Disabled readers also were less likely to rely on external prompts to help them recall everyday information. Experiment 2 extended the previous findings to older subjects (high school students) and found that the majority of significant correlations between the laboratory (word span task) and everyday memory tasks were isolated to disabled readers. When compared to CA-matched subjects, disabled readers were inferior in recent performance on the laboratory (word span) and natural serial recall (e.g., recall of U.S. presidents) tasks. Experiment 3, involving high school students, showed that under conditions that facilitate item accessability, ability group differences in recall were comparable. Taken together, the findings indicated that disabled readers' memory deficits were pervasive across naturalistic and laboratory measures at the younger age, but these deficits diminished for older students. Further, the deficits that occurred at the older age were due to problems in accessing knowledge.

BRITTON, BRUCE K.; VAN DUSEN, LANI; GÜLGÖZ, SAMI; GLYNN, SHAWN M.; & SHARP, LAURY. (1991, March). Accuracy of learnability judgments for instructional texts. *Journal of Educational Psychology, 83,* 43-47.

Explores the accuracy of college students' judgments of the relative learnability of 20 pairs of instructional texts, when texts were presented in original and rewritten versions. Subjects were 210 college undergraduates who were asked to indicate which text they would remember most if tested 24 hours later. Previous studies with similar populations suggested that retention was improved by reading 14 of the rewritten passages, but not by reading 6 others. Rank-order correlation coefficient between the percentage of improvement in retention and the percentage of correct judgments was significant ($p < .001$) for all texts. Subjects were able to select with 95% accuracy the most learnable of the two texts on the same topic.

WHITTLESEA, BRUCE W.A. (1990, July). Perceptual encoding mechanisms are tricky but may be very interactive: Comment on Carr, Brown, and Charalambous.

Journal of Experimental Psychology: Learning, Memory, and Cognition, 16, 727-730.

Carries out a near replication of a previously designed study investigating the abstractness of perceptual encoding and compares the results of the current study with those of the previous one. Subjects included 40 undergraduate students who were participating for course credit. Materials consisted of two paragraphs, each with two alternate scrambled versions. Participants were asked to read each paragraph aloud as quickly and accurately as possible. Reading times for scrambled paragraphs were compared under two conditions: following a reading of the identical scrambled paragraph, and following a reading of an alternate scrambling of that paragraph. Gains in reading time were compared between first and second readings. Findings indicated a small but reliable effect of context repetition, thereby contradicting the conclusion of the previous study that perceptual processing is abstract when tasks remain constant.

GADZELLA, BERNADETTE M., & KNEIPP, LEE B. (1990, June). Differences in comprehension processes as a function of hemisphericity. *Perceptual and Motor Skills, 70,* 783-786.

Assesses differences between hemisphericity and cognitive strategies on a comprehension task. Subjects were 62 undergraduates enrolled in psychology classes. Administration of the Human Information Processing Survey resulted in identification of 19 subjects preferring left hemisphericity, 20 preferring integrated hemisphericity, and 23 preferring a right hemispheric mode. Comprehension was assessed using the Sentence-Picture Verification test, a computer program consisting of four types of structured sentences (True Affirmative, True Negative, False Affirmative, and False Negative) to which subjects responded true or false. The dependent variable was the reaction time recorded in milliseconds for each response. Differences among the three groups were tested using one-way ANOVA. Results showed significant differences among the groups on two types of sentences, True Negatives and False Negatives. Tukey post hoc analyses revealed that for both sentence types differences were between individuals preferring right- and left-hemispheric activities. In both cases, the left-hemispheric group had a longer reaction time.

IV-6 Auditory perception

ELLIOTT, LOIS L.; HAMMER, MICHAEL A.; & SCHOLL, MARGO E. (1990). Fine-grained auditory discrimination and performance on tests of receptive vocabulary and receptive language. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. *40,* pp. 170-179). Baltimore, MD: Orton Dyslexia Society.

Investigates the relation between children's performance on two measures of receptive language and children's auditory discrimination of consonant-vowel sounds having frequency and temporal acoustic differences. A total of 175 children progressing normally through school and 189 children exhibiting language-learning problems were tested for the study. The age range was from 6 to 11 years. The auditory discrimination measure used determined the smallest acoustic differences among CV PPVT-R and the Token Test for Children as measures of their receptive language. Multiple regression analyses and validation correlation coefficients led to the conclusion that fine-grained auditory discrimination is of particular importance in the early stages of language learning.

MCGIVERN, ROBERT F.; BERKA, CHRIS; LANGUIS, MARLIN L.; & CHAPMAN, STEFAN. (1991, January). Detection of deficits in temporal pattern discrimination using the Seashore Rhythm Test in young children with reading impairments. *Journal of Learning Disabilities, 24,* 58-62.

Explores the utility of the Seashore Rhythm Test to determine auditory temporal processing deficits for younger school-age children who are experiencing reading difficulties. Subjects were 59 children in Grades 1 through 3 who were administered a battery of tests during the last three weeks of the school year. Children who were having reading difficulties but were not diagnosed as learning disabled were compared to controls. A third group of 9 children diagnosed as learning disabled were included to determine whether their patterns differ from those with reading impairments. Tests administered were the Seashore Rhythm Test, the Benton Visual Retention Test, the PPVT, the Blau Torque Test, and the Rod and Frame Test. Children with reading impairments were found to exhibit a marked deficit in ability to discriminate patterned pairs of tones on the Seashore Rhythm Test. These children exhibited deficits in right-left orientation on the Blau Torque Test. No differences were found in Rod and Frame Test, PPVT, or Benton Visual Retention Test performance. Performance on the Seashore Test for the learning disabled children was similar to performance for the group with reading impairments.

BOWEY, JUDITH A., & FRANCIS, J. (1991, March). Phonological analysis as a function of age and exposure to reading instruction. *Applied Psycholinguistics, 12,* 91-121.

Tests the prediction that phonemic analysis skills develop as a consequence of reading instruction and concomitantly with comprehension of the alphabetic principle. Subjects were three groups of children, the oldest group of kindergarteners and the youngest and oldest children from a first grade sample of Australian children. All took the PPVT-R, subtests of the WRMT, and the Ready to Read Word Test. Subjects were given a series of phonological oddity tasks to assess sensitivity to subsyllabic onset and rime units and to phonemes. Onset and rime sensitivity were strongly associated with early reading progress and were of equal difficulty for subjects. Phoneme oddity tasks were more difficult than rime oddity tasks. Rime/onset oddity performance scores explained variation in early reading achievement more reliably than phoneme oddity performance.

KIRTLEY, CLARE; BRYANT, PETER; MACLEAN, MORAG; & BRADLEY, LYNETTE. (1989, October). Rhyme, rime, and the onset of reading. *Journal of Experimental Child Psychology, 48,* 224-245.

Reports two studies conducted with children ages 5, 6, and 7 to explore when it is easier for young children to categorize words by the opening phoneme of CVC words than by their end phoneme or when there will be no differences between the two tasks. Experiment 1 focused on children who were on the borderline between reading and not reading (64 children, mean age 5-7), and Experiment 2 used children from a wider age range (24 children, mean age 5-6; 32 children, mean age 6-1; and 32 children, mean age 7-3). In Experiment 1. subjects were screened with the Schonell Reading Test and divided into prereaders and readers. Children were given two oddity tasks and two memory control tasks. Children in both groups were more correct on the Opening Sound than the Ending Sound Task and no words were more memorable than others. The Opening Sound Task was easier than the End Sound Task, suggesting awareness of phonemes in young children and the ability to isolate single phonemes when they are part of the onset, rather than the rime. In Experiment 2, subjects were presented with four conditions, eight oddity tasks about opening and ending sounds using real words for all with nonsense words added for the older children. End Sound Tasks were difficult in two of the four conditions, again suggesting that onset and rime were important for phonological awareness. The most difficult conditions were those violating the onset rime distinctions for both real and nonsense words. Scores on tasks were related to children's level of reading, with a closer relationship between End Sounds and reading than between Opening Sounds and reading.

SHAPIRO, JON; NIX, GARY W.; & FOSTER, STEVEN F. (1990, September). Auditory perceptual processing in reading disabled children. *Journal of Research in Reading, 13*, 123-132.

Examines performance differences between disabled and average readers on various measures of auditory perceptual processing. Subjects were 103 reading disabled children in grades 2 through 6 matched with 103 average readers on sex, grade, and school. Assignment to disabled and average reader groups was based on the Canadian Test of Basic Skills performance criteria. A battery of five auditory perceptual tasks including analysis, synthesis, sequential memory, discrimination, and phonemic segmentation was administered to all subjects. Data submitted to a principle-component analysis revealed 4 factors (advanced phonological analysis, sequential memory, discrimination, and simple phonological analysis) each of which accounted for more than 10% of the total battery variance. Results of discriminant analyses indicated that three of the four factors were able to adequately discriminate between disabled and average readers. The most prominent of these was advanced phonological analysis followed by sequential memory. The least useful discriminator between groups was auditory discrimination.

REED, MARJORIE A. (1989, October). Speech perception and the discrimination of brief auditory cues in reading disabled children. *Journal of Experimental Child Psychology, 48*, 270-292.

Compares in two experiments the speech and nonspeech processing abilities of normal and RD children. The former were 23 second and third graders who scored at or above the 40th percentile on the WRAT. The latter were 23 second and third graders who scored below the 22nd percentile on the WRAT. Both groups were matched on age, sex, and grade. Subjects were assessed on a wide variety of auditory and visual perception tasks requiring the identification of verbal and nonverbal stimuli ranging in cue duration. ANOVA procedures applied to the data indicated a deficit in RD children's ability to identify brief tones as well as stop consonant syllables presented at short interstimulus intervals. RD children also displayed a greater degree of ambiguity in identifying and discriminating phonemes, a greater dependency on context for purposes of identifying phonemes, as well as a deficiency in the perception of naturally produced words. RD children's performance with vowel stimuli presented with or without white noise background and short visually presented cues was not significantly different from that of normal children. The results suggest RD students have processing difficulty with brief auditory cues.

HURFORD, DAVID P. (1990, November). Training phonemic segmentation ability with a phonemic discrimination intervention in second- and third-grade children with reading disabilities. *Journal of Learning Disabilities, 23*, 564-569.

Evaluates the effects of phonemic discrimination training on the phonemic segmentation ability of children with reading disabilities. The sample of 48 included 27 second graders (9 without reading disabilities and 18 with reading disabilities) and 21 third graders (7 without reading disabilities and 14 with reading disabilities). All subjects were white, middle-class children with no observable handicaps or emotional problems. The children with reading disabilities were selected from LD or reading disabled classrooms and were assigned to training or control groups matched on age, reading ability, and performance on the phonemic segmentation assessment. Children without reading disabilities were included in the study to generate phonemic segmentation data from individuals who were successfully engaged in learning to read. Phonemic discrimination training consisted of three categories of stimuli: vowels, CV syllables that began with liquid consonants, and CV syllables that began with voiced plosives. Training entailed sessions of 30 to 45 minutes per day for approximately four days. Pre- and poststudy assessments of phonemic segmentation were conducted with all subjects. The dependent variable for analysis was the percentage correct on the segmentation task collapsed across type of task (word vs. nonword). The results of a 2 (training group) by 2 (time of testing) ANOVA for the children with reading disabilities indicated that there was a main effect of time of testing. More important, there was a training x time interaction, in which the trained children with reading disabilities significantly improved their phonemic segmentation performance from pre- to posttraining assessments. The performance of the control children with reading disabilities did not significantly change from pre- to posttraining assessments. The trained second grade subjects with reading disabilities still performed significantly less well to the second grade children without disabilities; however, the posttraining performance of the trained third grade children with reading disabilities was not significantly different from the third grade children without reading disabilities.

GATTUSO, BEA; SMITH, LINDA B.; & TREIMAN, REBECCA. (1991, February). Classifying by dimensions and reading: A comparison of the auditory and visual modalities. *Journal of Experimental Child Psychology, 51*, 139-169.

Conducts four experiments to determine whether phonemic segmentation skill is one instance of a more general developmental trend in perception or if segmentation ability depends on specific experiences with language, including reading instruction. Pupils in kindergarten through fourth grade (Experiments 1, 3, and 4) and adults (Experiment 2) classified triads of spoken syllables and triads of visual objects. Results revealed that classifying speech by common parts was positively related to reading and spelling ability (Experiments 1 and 4), but usually not to classifying visual stimuli by common parts under free classification instructions (Experiments 1, 2, and 3). However, classification was more consistent across the visual and auditory modalities when the children were told to classify based on a shared constituent (Experiment 4). Regardless of whether the task was explicit or nonexplicit, the conclusion was the same: classifying spoken syllables by shared phonemes was more related to reading and spelling ability than classifying visual objects by shared constituents. Thus, some general perceptual limit (whether based in preference or ability) was not the source of differences in reading and spelling performance. Rather, young readers' deficient phonemic segmentation skills appeared to be specific to reading or language use. The authors concluded that training in phonemic analysis may be helpful or even necessary for learning to read.

PENNINGTON, BRUCE F.; VAN ORDEN, GUY C.; SMITH, SHELLEY D.; GREEN, PHYLLIS A.; & HAITH, MARSHALL M. (1990, December). Phonological processing skills and deficits in adult dyslexics. *Child Development, 61*, 1753-1778.

Presents four experiments investigating the primary underlying phonological processing deficit(s) in adult dyslexics. Five phonological processes, all involving spoken language, were studied: phoneme perception, phoneme awareness, lexical retrieval of phonology, articulatory speed, and phonetic coding in verbal short term memory. The subjects in each experiment were two differently ascertained adult dyslexic groups: familial dyslexics (n = 15) and clinic dyslexics (n = 15). Each dyslexic group was compared to two control groups, chronological age (CA) controls who were similar in age and gender, and younger reading age (RA) controls who were similar in reading age and gender. The main finding of these four experiments was a clear deficit in phoneme awareness in both dyslexic groups, with each dyslexic group performing significantly worse that both CA and RA controls. Moreover, performance on the two phoneme awareness tasks together uniquely accounted for substantial variance in nonword reading. The clinic, but not the familial, dyslexics appeared to have an additional deficit in verbal short term memory. No clear deficits were found in either dyslexic group in phoneme perception, lexical retrieval, or articulatory speed.

Sinatra, Gale M. (1990, Spring). Convergence of listening and reading processing. *Reading Research Quarterly, 25,* 115-130.

Examines the convergence point of listening and reading using linguistic stimuli at the phonemic, lexical, syntactic, and semantic levels. Subjects were 40 undergraduate students from psychology classes at the University of Massachusetts. All subjects received class credit for their participation in the experiment. Immediately after receiving an auditory stimulus presented through headphones, subjects were asked to tell whether two visual stimuli displayed on a computer screen were the same or different. The auditory stimulus (which consisted of a nonword string, a random word string, a syntactically appropriate but meaningless word string, or a fully good sentence) was either the same or different from the first visual stimulus that followed. Reaction time for decisions pertaining to each visual comparison were recorded, with the accuracy rate across conditions being at 95%. ANOVA procedures applied to the data showed that reaction times for visual comparisons were significantly shorter after subjects heard auditory stimuli that matched full sentences, syntactic strings, and random words. Significant effects were not found for nonwords. Findings suggest that listening and reading processes converge at the word level and that written and spoken words are part of the same lexicon.

Hochhaus, Larry; Swanson, Leila G.; & Carter, Ann L. (1991, January). Common words are longer in apparent duration than are rare words. *Journal of General Psychology, 118,* 83-95.

Details a series of four experiments exploring the relation between word frequency and apparent duration. These experiments were conducted with university psychology students; sample sizes were 16, 16, 26, and 32 for Experiments 1 through 4 respectively. In Experiment 1, low and high frequency words were displayed on a computer monitor, and subjects were asked to rate the duration of each from short (1) to long (4). Word frequency was manipulated factorially with three stimulus durations. Results revealed that high frequency words were judged longer in duration than low frequency words at each exposure duration. In Experiment 2, all procedures were replicated; however, briefer durations were used. Results showed that frequency did not affect subjective duration. In Experiment 3, word length was held constant. In addition, a backward masking variable was used to determine its influence on estimated duration. Nonwords were presented in addition to the high and low frequency words used in Experiment 1. Results indicated that a wider range of frequency restored the longer apparent duration of high frequency words. Use of postexposure mask lengthened duration judgments but did not interact with the frequency effect. In Experiment 4, paired stimuli were presented to the subjects, and they were asked to indicate whether the first or the second presentation of each pair had a longer duration. This use of a paired comparison procedure again showed the frequency effect. The results of these experiments were consistent with an attention model that suggests that subjective time estimation is directly related to the amount of attention remaining to evaluate the passage of time once the stimulus target has been cognitively processed.

IV-7 Visual perception

Solan, Harold A., & Ciner, B. (1989, June). Visual perception and learning: Issues and answers. *Journal of the American Optometric Association, 60,* 457-460.

Reviews briefly selected literature relating to the correlation between perceptual skills and reading and learning, and the research support for the use of optometric therapy in treating reading and learning problems. Based primarily on a study by the first author, it is felt that there is a high correlation between perceptual skills and kindergarten readiness and between perceptual skills and first grade reading vocabulary. The authors also conclude that there is evidence that perceptual therapy is a useful approach in remediating perceptual deficits which have been shown to contribute to learning difficulties. Finally, the authors discuss the role of the optometrist as a member of an interdisciplinary team in treating children diagnosed as LD or reading disabled.

Feagans, Lynne V., & Merriwether, Ann. (1990, August/September). Visual discrimination of letter-like forms and its relationship to achievement over time in children with learning disabilities. *Journal of Learning Disabilities, 23,* 417-425.

Examines visual discrimination skills using letter-like forms in both LD and normally achieving children in order to understand how these skills are related to other abilities and achievement. The sample included 66 LD children who were identified for participation at 6 or 7 years of age. A control group included normally achieving children of the same ages, sex, and race as the experimental group subjects. LD subjects were tested within six weeks of placement in a resource room program, and all children were followed for three years. In addition, a follow-up was conducted when each child was 12 years of age. Measures included a visual discrimination task; the PIAT subtests of reading recognition, reading comprehension, and mathematics; the WISC-R; and the Woodcock-Johnson Tests of Achievement. The discrimination task was used to form subgroups of LD subjects classified as having a perceptual discrimination problem. This resulted in identification of 38 low-error LD subjects, 23 high-error LD subjects, 54 low-error normal subjects, and 12 high-error normal subjects. To assess performance, one MANOVA was performed using a 2 (group) x 2 (subgroup) design with the WISC-R, achievement tests, and subtests as dependent measures. In addition, repeated measures MANOVAS were performed to understand whether these groups performed differently over time on the achievement measures. Results indicated that LD children who had visual discrimination problems at 6 or 7 years of age performed more poorly in reading and general achievement over the elementary school years in comparison to both those LD pupils without visual discrimination problems and the normally achieving pupils.

Solan, Harold A., & Ficarra, Anthony P. (1990, August). A study of perceptual and verbal skills of disabled readers in grades 4, 5, and 6. *Journal of the American Optometric Association, 61,* 628-634.

Investigates the perceptual and verbal skills of children identified as RD. Subjects were 51 fourth, fifth, and sixth grade children selected from three parochial schools. All were of average ability according to the WISC-R, but scored at or below the 30th percentile on the reading comprehension subtest of the GMRT. Eight perceptual and six verbal tests were administered individually to each subject. Comparisons of disabled readers' performance with mean scores from standardized test norms indicated the disabled readers were significantly deficient in seven out of eight perceptual and five out of six verbal abilities. Stepwise multiple correlation analysis revealed three tests of perceptual factors (The King-Devick, the Auditory-Visual Integration Test, and the Grooved Pegboard Test) accounted for 38% of the variance in reading comprehension. An additional 2% of the variance was accounted for by two tests of verbal factors (the Digit Backwards Test and the Token Test). The results support the hypothesis that visual-perceptual, sensory motor, and intersensory skills are just as important to reading success as are verbal skills.

Pyszkowski, Irene S. (1986, Fall). A study of student eye movement and its relationship to reading scores. *Journal of Clinical Reading, 2*(2), 6-10.

Examines the relation between reading ability, as measured by the CAT, and performance on a visual tracking test, the King and Devick Saccade Test (K-D Test). Subjects were 90 fourth graders from four intact classrooms who were tested and retested on the K-D Test by trained optometric students and faculty from a university clinic. The K-D Test consisted of randomly spaced numbers on each line which were called out by the subject as quickly as possible. Correlation coefficients were calculated using the original and retest K-D Test and CAT scores. Chi-squares were employed to test any significant differences among the groups of students on passing or failing the different tests. A significant difference was found only for Group 2 (n=20) in that the longer the total time to take the test, the lower the reading comprehension scores. Findings suggest that a relation does exist between visual tracking and reading performance for poor readers, but such relations were not found for good readers.

CHASTAIN, GARVIN. (1990, July). A test of perceptual enhancement with peripherally presented letter pairs. *Journal of General Psychology, 117,* 295-301.

Observes perceptual accuracy of a target presentation (letters) at fixation when a nontarget letter or letter from the target that matched neither letter in the periphery was introduced. Twenty freshmen enrolled in a general psychology class served as subjects in the study. Stimuli were presented on a computer monitor. Each subject received 288 exposures with exposure durations set at 200 ms and adjusted in increments of 10. Each trial began with a fixation dot followed by two random letters left and right of the fixation point. A question mark then appeared cueing the subject to orally recall the two letters flashed. The subjects were to report the two periphery letters in left to right order, but not the letter at the fixation point. A correct response was scored if the letter at fixation matched the target letter from the periphery. Observed accuracy changes were found due to response bias rather than to sensitivity enhancement

SOLMAN, ROBERT T., & MAY, JAMES G. (1990, Summer). Spatial localization discrepancies: A visual deficiency in poor readers. *American Journal of Psychology, 103,* 243-263.

Examines the relation between reading ability and the ability to locate patterns in space. Two experiments are reported, both employing the same 20 good and 20 poor readers from two primary schools in Sydney, Australia. Subjects were identified on the basis of test scores as the best and worst readers from a sample of 98 third year children. In Experiment 1, subjects were presented with a briefly displayed shape or letter in a 7 x 7 matrix and then asked to point to its location. Targets appeared at nine distances from the center of the display. The discrepancy between the target's location and the pupil's response was recorded. While discrepancies by both groups increased with eccentricity, the rate of increase was greater for poor readers. Experiment 2 called for two temporally and spatially separated target patterns to be located on each trial. Again, discrepancies for both groups increased with eccentricity, but the rate was greater for poor readers. The authors argue that the results suggest that poor readers are handicapped by a low level of processing or perceptual deficiency in the visual encoding system.

WINTERS, ROBERTA L.; PATTERSON, ROBERT; & SHONTZ, WILLIAM. (1989, December). Visual persistence and adult dyslexia. *Journal of Learning Disabilities, 22,* 641-645.

Explores visual pattern persistence in adults with and without dyslexia. Subjects were eight dyslexic and eight nondisabled college undergraduates ranging between 18 and 37 years of age. Subjects were electronically shown a square-shaped test stimulus. On a given trial, the four sides of the square were displayed either simultaneously or sequentially. For the sequential presentation, the time intervals between the offset of one side and the onset of another was controlled, with the first two sides being shown contiguously (left, bottom, top, right) or oppositely (left, right, top, bottom). Subjects were asked to indicate whether the square was simultaneously or sequentially displayed and to rate the confidence of their decision. Discrimination performance was noted as a measure of visual persistence. ANOVA procedures applied to the data suggested that under contiguous conditions visual persistence rises for adult dyslexics.

IV-8 Reading and language abilities

Amsterdam, Lisa; Ammon, Paul; & Simons, Herbert D. (1990, September). Children's elicited imitations of controlled and rewritten reading texts. *Journal of Educational Psychology, 82*, 486-490.

Applies an elicited imitation technique to evaluate the validity of the controlled language used in conventional basals for beginning readers. The sample included 26 pupils drawn from a population of 6- and 7-year-old first graders who spoke standard dialects of English. They were randomly divided into two groups; each group had equal numbers of boys and girls and readers of high and low achievement levels, as indicated by their teachers. Two stories were taken from first grade basal readers, rewritten in more natural language, and used in two forms: controlled original versions and rewritten more natural versions. For the imitation task, each story was divided into nine segments containing an average of 20.8 words in the original versions and an average of 17.9 and 19.0 words in the rewritten versions. Individual segments varied in length from 11 to 31 words. Each story was presented orally for the subjects to imitate, one segment at a time, in a between-groups design. Comprehension was assessed using literal and inferential questions and story retellings. The subjects' transcribed imitations were examined in two ways. First, the degree to which subjects were able to reproduce the language and content of the story segments was measured by rating their reproduction accuracy on each segment. Second, the frequency with which selected linguistic features were retained or changed was tabulated. Results revealed that the mean rating for reproductions of content was higher for each of the rewritten stories than for its original counterpart. Chi square analyses of performance on the linguistic features revealed that children were significantly more inclined to delete unmotivated repetitions than to add them, and to consolidate or conjoin simple sentences than to break up more complex ones. On the recall measure of comprehension, subjects who had imitated the rewritten versions reproduced a greater proportion of information units than subjects with the original versions; however, within-group variances were large and between-group differences were not significant. On the comprehension questions, the mean proportion answered correctly was higher for the rewritten versions than for the original stories. The between-group differences were significant for only one of the stories used.

Bartelo, Dennise M. (1990, Fall). The linkages across listening, speaking, reading, drawing, and writing. *Reading Improvement, 27*, 162-172.

Investigates the linkages between and across the language processes of listening, speaking, reading, drawing, and writing, and analyzes the display of meaning represented in children's responses to stories. Subjects included eight first grade pupils ranging in reading ability from low to above average levels of achievement. In individual sessions, which were videotaped/audiotaped, each subject was read four stories and asked to retell each story from memory and then to draw/write about each story. To analyze the resulting data from both the 32 drawing/writing samples and transcriptions, flow charts were drawn to represent each subject's talking/listening, drawing/picture reading, and writing/reading behaviors. Research protocol interviews were used to develop a profile of each child's drawing/writing process knowledge. Categories were developed to represent a framework for coherence and specificity of text illustrated in the picture stories and retellings. Results of analyses revealed that no one particular language process was found to be exclusively used by the subjects to convey meaning in response to stories. Process conference responses did reveal some awareness of composing strategies. The categories of language functions displayed were characteristic of the informational and procedural categories for the high group readers, and format regulating and informational procedures for the low readers. Coherence and specificity of text in the retellings and picture stories were found to be characteristic of the skeletal and interpretational categories for both groups.

BRYANT, PETER; MACLEAN, MORAG; & BRADLEY, LYNETTE. (1990, September). Rhyme, language, and children's reading. *Applied Psycholinguistics, 11*, 237-252.

Reports a longitudinal study exploring children's sensitivity to rhyme and their ability to correct and detect mistakes in ungrammatical sentences. Subjects were 65 children followed from the middle of their third year to the middle of their sixth year. Children were administered the WPPSI, the WISC-R, the British Picture Vocabulary Scale, the Reynell Developmental Language Scale, a sentence imitation task, rhyme and alliteration oddity tasks, a task of syntax awareness, a list of high frequency words to read, the France Primary Reading Test, the Schonell Graded Word Reading Test, and the Schonell Spelling Test over the three-year period. Coefficients of correlations between metalinguistic variables and reading/spelling measures were higher than the relation between language measures and reading and spelling. Correlations with IQ also were high. Multiple regression analysis suggested that linguistic measures were good predictors of reading, and metalinguistic scores were good predictors of reading even after general linguistic abilities were partialled out. When social background and IQ measures were included in the equation, linguistic variables lost predictive ability for reading and spelling, but the metalinguistic measures of rhyme and alliteration were still significant. Similar patterns were found for a reduced sample who began the study as nonreaders. Rhyme and alliteration continued to predict reading and spelling scores after the effects of age, social background, IQ, and the various linguistic measures were removed.

WALCZYK, JEFFREY J., & HALL, VERNON C. (1991, January). A developmental study of children's ability to adopt perspectives and find errors in text. *Contemporary Educational Psychology, 16*, 2-17.

Researches in two experiments children's ability to rate passage content, detect anomalies, and recall information from stories heard from different perspectives. In Experiment 1 subjects were 35 second graders and 36 fourth graders. Children were asked to listen to two stories from one of two perspectives, and to rate each sentence (on a 3-point scale) as to how important it was to the assigned perspective. Mean ratings for the perspective relevant and perspective irrelevant sentences for each story were compiled and ANOVA procedures were applied to the data. Results for both stories indicated children at both grade levels rated perspective relevant sentences significantly higher than irrelevant sentences. In Experiment 2, subjects were 24 second and 24 fourth graders. Given the stories used in Experiment 1 and assigned perspectives, subjects were asked to choose sentences that had been altered to contain anomalous clauses. Additionally, they were asked to recall sentences from each story that were relevant to their assigned perspective. ANOVA procedures revealed fourth graders detected significantly more anomalies than second graders. Fourth graders also recalled significantly more perspective relevant information than second graders, with second graders recalling relevant and irrelevant information to essentially the same degree. Results support the position that ability to adopt and apply perspective is developmental.

HANES, MADLYN, & HANES, MICHAEL L. (1984/1985). Dialect usage, function word acquisition, and reading achievement in primary grade children. *Journal of Clinical Reading, 1*(2), 1-10.

Looks at how dialect usage changes as students advance in grades and whether dialect usage can predict reading achievement. Samples were 75 children, grades K-2, from a rural elementary school. Pupils were administered an oral sentence repetition task scored for function word performance and the frequency of dialect substitutions. Reading performance was assessed 10 months later using the MAT. Dialect usage did not change substantially from kindergarten to grade 2 and was not a significant predictor of reading achievement. Implications suggest that teaching standard dialect to primary grade children may not be fruitful, considering the stability of dialect usage and the lack of data supporting the influence of linguistic interference.

HEAD, MARTHA H.; READENCE, JOHN E.; & BUSS, RAY R. (1989, Summer). An examination of summary writing as a measure of reading comprehension. *Reading Research and Instruction, 28*, 1-11.

Studies the effects of topic interest, writing ability, and level of summarization ability on 49 seventh graders' production of written summaries. Performance on multiple-choice questions over the same target passage in social studies was examined in relation to the summaries. Prior to treatment, subjects completed a topic interest questionnaire, ranking topics they would like to read about in their history classes. They also wrote a composition that was scored using an analytical scoring method, and took a multiple-choice pretest. Treatment consisted of two class periods of direct instruction on summarization, the experimental group, or on vocabulary, the control group. Posttesting followed the day after. Subjects listened to an advance organizer, read the target passage, and then wrote a summary from memory. Modest coefficients were found between multiple-choice scores and summarization scores, suggesting little relation between the two tasks. Regression analyses suggested interest as a significant predictor of summary scores. Control group pupils wrote more statements that were irrelevant or distorted the text more often than did the summary treatment group. Writing ability was a statistically significant predictor of summary performance.

GBENEDIO, UCHE B. (1989, Fall). Reading for spelling: A study in concomitant and incidental learning. *Journal of College Reading and Learning, 22*, 23-28.

Examines the effects of reading experience on college students' learning of word spelling. Subjects were 64 undergraduates enrolled in an English language teaching methodology course at a Nigerian university. Subjects were divided into good spellers and poor spellers based on performance on a spelling test of ten difficult words. Nonsense target words used as proper nouns were presented to subjects, two within each of five passages of varying lengths. Subjects were instructed to read each of the five passages and then answer a five item multiple-choice comprehension test that also assessed spelling of the target words. To establish intentional vs. incidental learning groups, half of the good and poor spellers were told prior to the reading that they would be asked to spell certain words at the end of the reading, and the other half were not. A 2 (good vs. poor spelling ability) × 2 (intentional vs. incidental learning) ANOVA with comprehension and spelling as dependent variables revealed no significant difference between good and poor spellers' comprehension. However, good spellers performed significantly better than poor spellers on the spelling test. Students in intentional groups performed better than students in incidental groups.

AU, TERRY KIT-FONG, & GLUSMAN, MARIANA. (1990, October). The principle of mutual exclusivity in word learning: To honor or not to honor? *Child Development, 61*, 1474-1490.

Reports six studies examining whether children and adults limit the use of mutual exclusivity to learn multiple names for an object when they believe that the names pick out categories from different levels of a hierarchy or the names come from different languages. Adults as well as children resisted assigning two novel names to the same object, except under certain conditions. By age 4, children accepted two names for an object if the names picked out categories from different levels of a hierarchy and if the names clearly came from different languages. Findings suggest that learners can appropriately use knowledge categorization and language to limit their use of mutual exclusivity.

BIALYSTOK, ELLEN, & NICCOLS, ALISON. (1989, July). Children's control over attention to phonological and semantic properties of words. *Journal of Psycholinguistic Research, 18*, 369-387.

Examines one aspect of linguistic awareness – the ability to attend to phonological and semantic properties of isolated words, among children ranging in age from 5 to 9. The specific focus of this study was the ability of children to attend to both formal and semantic properties of words under contextual conditions that made one of the properties more salient. A total of 246 children were included. Each child was tested individually on the Backward Digit Span subtest (WISC) and the Form/Meaning Selection Test, a task requiring subjects to match a stimulus word on the basis of either its sound or its meaning under conditions that varied in their support for the correct answer. Results were presented as discriminability data, indicating the child's ability to distinguish these properties under the different experimental conditions. Although all participating children were able to select either of these properties in a simple control condition, adding various levels of distraction interrupted their ability to attend to the requested feature. The 5-year-olds were unable to attend selectively to either feature; older children adopted a default or bias to phonological properties, and only the 9-year-olds were able to attend to meaning as well as sound.

GERMAN, DIANE J., & SIMON, ELAINE. (1991, April). Analysis of children's word-finding skills in discourse. *Journal of Speech and Hearing Research, 34*, 309-316.

Analyzes children's word-finding skills in discourse. The subjects included 16 children with word-finding problems and 16 normal children in grades 1-6. All subjects had average receptive vocabulary skills (PPVT) and normal visual and auditory acuity. They were matched for sex, age, grade, ethnicity, SES, geographic region, and receptive language. Subjects' narratives, produced in response to three pictures and five probes, were tape recorded, transcribed, and analyzed with respect to word-finding indices. These included language productivity and the incidence of word-finding characteristics (repetitions, reformulations, substitutions, delays, empty words, time fillers, and insertions). Group comparisons were made with respect to these indices. First, the normal and word-finding subjects were compared on word-finding skills in narratives. Second, distribution patterns were compared with respect to the relative frequency with which word-finding characteristics were manifested, the percentage of total words particular word-finding characteristics occupied, and the percentage of T-units containing each word-finding characteristic. Children with word-finding disorders did not differ from normal children in language productivity but manifested significantly more word-finding characteristics in their narratives. Specifically, they produced a greater percentage of T-units with one or more word-finding characteristics and a greater percentage of T-units with repetitions, reformulations, substitutions, empty words, delays, and insertions. Although groups differed in the frequency of occurrence of word-finding characteristics, the rank order of their usage, except for insertions, did not appear to differ.

BOLAND, JULIE E.; TANENHAUS, MICHAEL K.; & GARNSEY, SUSAN M. (1990, August). Evidence for the immediate use of verb control information in sentence processing. *Journal of Memory and Language, 29*, 413-432.

Reports two experiments examining the use of verb control using an on-line plausibility monitoring task. Subjects for both experiments numbered 32 undergraduates. Materials for Experiment 1 consisted of 28 sentence sets each with four conditions: two sentence types (declarative or question) and plausibility or implausibility. Sentences were presented word-by-word on a computer screen at a rate controlled by the subjects, with the words accumulating across the screen. Subjects were to press a key as soon as a sentence did not make sense. Evidence in both experiments indicated that subjects immediately detected incongruities that depended on their having correctly used information, suggesting that verb control information is rapidly accessed and used. The authors argue that the findings support an approach to language comprehension that emphasizes the importance of lexical representations in rapidly integrating many of the various sources of linguistic and nonlinguistic knowledge that need to be coordinated during language comprehension.

RASINSKI, TIMOTHY V. (1989, Fall). Adult readers' sensitivity to phrase boundaries in texts. *Journal of Experimental Education, 58*, 29-40.

Focuses on three purposes: (1) to examine the effects of passage difficulty on readers' sensitivity to phrase boundaries in texts; (2) to study phrasing ability in good and poor readers; and (3) to determine if difficulties in phrasing stem from inadequate sensitivity to phrase boundaries. Subjects were 60 undergraduate college students enrolled in a reading related college course. Based on scores achieved on a required college reading proficiency examination, 30 good and 30 poor readers were identified. Subjects were asked to read two passages of varying difficulty and to mark with a slash those places in the texts they felt were important boundaries. Subjects' phrasing scores were analyzed using a 2 (reading ability) × 2 (text difficulty) randomized ANOVA. A significant difference was found in readers' ability to identify phrase boundaries in difficult text. Both good and poor readers identified phrase boundaries similarly in less difficult text. Further analysis demonstrated that all subjects' errors were due to an insensitivity, rather than oversensitivity, to phrase boundaries when compared to expert readers.

LEE, RENE FRIEMOTH, & KAMHI, ALAN G. (1990, October). Metaphoric competence in children with learning disabilities. *Journal of Learning Disabilities, 23*, 476-482.

Assesses metaphoric competence in two groups of LD children and one group of nondisabled peers (NLD). Subjects were 24 LD pupils and 12 NLD pupils between the ages of 9.1 and 11.0. Half of the LD subjects had a history of language impairments in addition to a history of academic failure and were labeled learning disabled/language impaired (LD/LI). The primary learning disability of the remaining LD subjects involved written language. The NLD subjects were considered normal achievers. Subjects in each group were individually matched for MA as measured by the Quick Test. All children were seen individually in their school for two test sessions. They were administered three verbal metaphor tasks (comprehension, preference, and completion) and a visual metaphor task, the Metaphor Triads Task (MTT). The three verbal metaphor tasks were administered in three contexts: sentence, story, and story plus visual (pictorial) support. Data for the comprehension task were analyzed with a three way repeated measures ANOVA. Significant group differences were found for all three tasks: comprehension, preference, and completion. Tukey post hoc analyses indicated that the NLD group performed significantly better than the LD group, who performed significantly better than the LD/LI group. Error analyses indicated that LD/LI subjects produced a higher proportion of literal responses on the preference and completion tasks than the other children. LD/LI children also made the most errors on the comprehension task and on the MTT.

BISHOP, D.V.M., & ADAMS, C. (1990, November). A prospective study of the relationship between specific language impairment, phonological disorders, and reading retardation. *Journal of Child Psychology and Psychiatry, 31*, 1027-1050.

Reports a follow up study of children identified as having language impairments at

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the age of 4 years to determine the relation between their language and literacy skills at the age of 8.5. The pool of subjects included 83 language delayed children evaluated at ages 4.5 and 5.5. Included in this study were 29 who evidenced no language impairment at age 5, 37 demonstrating poor language outcomes at age 5, and 16 exhibiting a general delay. Also included were 30 control 8 year olds, matched with the experimental group in terms of sex ratio. Data for analyses included test results obtained from evaluations at both ages 4 and 8.5. Included were assessments of nonverbal ability (Leiter International Performance Scale, WISC-R subtests of picture completion and block design), receptive vocabulary (British Picture Vocabulary Scale), understanding of grammatical contrasts (Test of Reception of Grammar), general comprehension (BAS verbal comprehension subtest and the WISC-R comprehension subtest), expressive phonology (Newcastle speech assessment and Word-Finding Vocabulary Scale), expressive vocabulary (BAS naming vocabulary subtest, Renfrew's Word-Finding Vocabulary Scale), mean length of utterance, expression of semantic relations, reading ability of 8.5 year olds (NARA), spelling (Graded Word Spelling Test), and tests of nonword spelling and reading (using nonsense words). The findings indicated that literacy development was normal for those language delayed 4-year-olds who had evidenced good language (i.e., no impairments) at age 5.5. However, many of the children who evidenced verbal defects at age 5.5 did have reading difficulties and persisting oral language impairments at age 8.5. In these subjects, reading comprehension tended to be poor relative to reading accuracy. Syntactic competence in the preschool period accounted for a substantial proportion of the variance in literacy attainments, after allowing for the effects of nonverbal ability. A weak relation was observed between expressive phonological disorders and later ability to read either meaningful text or nonwords.

KAMHI, ALAN G.; CATTS, HUGH W.; & MAUER, DARIA. (1990, December). Explaining speech production deficits in poor readers. *Journal of Learning Disabilities, 23*, 632-636.

Compares the speech production abilities of age-matched able and disabled readers. Subjects were 28 second and third grade children scoring within the normal limits of intelligence and language development on the Test of Nonverbal Intelligence and the Test of Language Development respectively. According to selected subtests of the GMRT and the WRMT, 14 of the children read at least one year below grade level and 14 read at grade level. Procedures for assessing the speech production of the two groups consisted of an acquisition phase and a retention phase. In the acquisition phase, each child was trained to produce four novel words, each within a series of 1 to 10 trials involving an exposure, comprehension, production, and recognition task. In the retention phase, which took place approximately 30 minutes after the acquisition phase, each child was asked to produce each novel word and, if unable, to recognize it among three choices pronounced by the examiner. For purposes of analysis, phonetic transcriptions of all responses made during the experimental tasks were recorded. ANOVA procedures applied to the data indicated significant differences in favor of the able group for correct production of three of the four words. Results suggest that incorrect speech production stems from inaccurate word representations.

SPARKS, RICHARD L., & GANSCHOW, LENORE. (1991, Spring). Foreign language learning differences: Affective or native language aptitude differences? *Modern Language Journal, 75*, 3-16.

Discusses the foreign language (FL) and learning disabilities (LD) research to identify commonalities of understanding about students who are unable to learn a FL the way it is typically taught in school. Literature on learning styles, affective factors, and the relation of IQ to FL learning was reviewed. The authors proposed that students who experience difficulties learning a FL may have native language learning problems. They concluded by offering an alternative to affective explanations for FL failure which they labeled the Linguistic Coding Deficit Hypothesis. It was proposed that this alternative accounts for FL learning difficulties by focusing on the phonological, syntactic, and semantic components of language.

SEGALOWITZ, NORMAN. (1991, March). Does advanced skill in a second language reduce automaticity in the first language? *Language Learning, 41*, 59-83.

Reviews research and reports a reanalysis of data collected in a previously published study to determine if performance decrements in one's first language (L1) is attributable to the possession of a second language (L2). Data which indicated that a high level of reading skill in L2 may be associated with slower reading in L1 were reviewed. It was determined in this analysis, however, that the reduction in L1 reading speed did not reflect a loss of reduction of automatic processing in word recognition. Highly skilled bilinguals (slower readers of L1), showed more, not less, automaticity in L1 word recognition than did a group of less skilled bilinguals. The data also indicated that highly skilled bilinguals were slower at strategic processing in their L1. Automatic L1 word recognition appeared to be unaffected by advanced skill in L2, whereas controlled, or strategic, processing of words may have been.

PERKINS, KYLE; BRUTTEN, SHEILA R.; & POHLMANN, JOHN T. (1989, December). First and second language reading comprehension. *RELC Journal, 20*, 1-9.

Studies the relation between reading in the first language and reading in the second for the same individuals. Subjects were 158 Japanese students enrolled in a university's intensive English program. On the basis of performance on the TOEFL, students were assigned to three levels of English language proficiency, resulting in groups of 32 (level 1, low), 106 (level 2, mid), and 20 (level 3, high). At the time of the study, each student had received five hours of weekly reading instruction over a period of 27 weeks. Two 50-item random parallel reading comprehension tests were constructed. One was translated into Japanese (test L1); the second was given in English (test L2). The L1 test contained 18 fact items, 16 inference items, and 16 generalization items; the L2 test contained 15 fact items, 15 inference items, and 20 generalization items. Pearson product-moment coefficients were calculated and evaluated to analyze the data. Results revealed evidence of a threshold competence ceiling at which the first language reading abilities transferred to second language reading abilities. At the highest proficiency level, readers who scored high on the first language reading test also systematically scored high on the second language reading test. Results also indicated that imperfect knowledge of the second language can cause difficulty in reading the second language.

JOHNSON, JANICE. (1989, June). Factors related to cross-language transfer and metaphor interpretation in bilingual children. *Applied Psycholinguistics, 10*, 157-177.

Examines factors underlying cross-language transfer in bilingual children, focusing on a measure of metaphor interpretation. Subjects were 10 Canadian second, fourth, and sixth graders, ages 7 to 12 years, whose first language was Spanish. Measures were obtained for nonverbal mental capacity, metaphor interpretation, verbal-conceptual repertoire, and linguistic proficiency in English and Spanish. With a previously validated procedure, subjects' metaphor interpretations were scored for cognitive complexity. In both languages, metaphor score was higher in older than in younger children. Correlational analyses indicated that level of metaphor interpretation was most strongly related to cognitive-developmental variables that are interdependent across languages such as nonverbal mental capacity and verbal-conceptual repertoire. Variables that measure specific proficiency in a language were less strongly related to level of metaphor interpretation and did not exhibit cross-language correlations. This pattern also emerged in results of exploratory factor analyses. The role of cognitive versus linguistic factors in metaphor development is discussed, as is the issue of interdependence versus independence across first and second languages.

TUDOR, IAN. (1990, September). Prereading format and learner proficiency level in L2 reading comprehension. *Journal of Research in Reading, 13*, 93-106.

Presents two experiments of the effect of prereading on the text comprehension of second language learners. Subjects in both experiments were French university students who had studied English for approximately four years prior to their university experience. Numbers for the two experiments were 212 and 174, respectively. Based on results on a multiple-choice entry test, subjects were split into three levels of English proficiency. Two sets of prereading materials were used in each experiment. In Experiment 1, the prereading materials consisted of a text summary and a set of prequestions. Both formats consisted of three numbered parts, with each part relating to one of the subtopics of the text. In Experiment 2, the formats consisted of a brief statement of the text topic with instructions to make notes on what subjects already knew about the topic prior to reading the text, and the provision of 12 topic-related words or phrases drawn from each text translated into French. Subjects were to provide the English equivalent of each word or phrase and a related expression. Texts were presented in cloze fashion with 55 cloze items. Cloze tests were scored for semantic acceptability, with either English or French synonyms accepted. The formats used in Experiment 1 were found to be more effective than those in Experiment 2. Language proficiency level did not appear to be a factor. However, the advanced group did not benefit from any of the prereading materials used.

DAVIS, JAMES N.; CORDERO-PONCE, WANDA; & CHANDRA, AMITABH. (1990, Winter). Performance of expert nonnative and nonexpert native readers of scientific French. *Reading Psychology, 11*, 33-48.

Compares recall performance of readers having high domain knowledge and low linguistic knowledge with that of readers having low domain knowledge and high linguistic knowledge of a scientific report written in French. Expert nonnative (ENN) subjects for the study were seven professors in a school of agriculture. They were studying French for purposes of doing research in Francophone African countries. Nonexpert native (NEN) subjects were eight graduate students in the department of French at the same university. Subjects read a French version of a scientific report in three orders: normal experimental report, scrambled, and very scrambled. Number of idea units recalled by subjects was assessed after a 24-hour delay. Findings of nonparametric and parametric ANOVA procedures applied to the data indicated ENN readers recalled more idea units than NEN readers, though the difference was nonsignificant. Recall of ENN readers, but not NEN readers, decreased substantially as text order became more scrambled. Recall for both groups showed a tendency to follow input order.

HAMMODOU, JOANN. (1991, Spring). Interrelationships among prior knowledge, inference, and language proficiency in foreign language reading. *Modern Language Journal, 75*, 27-38.

Presents two parallel studies—one in French, one in Italian—designed to assess the effects of topic familiarity (prior knowledge) on the reading comprehension of nonnative, second language (L2) readers, to examine differences of the effects of prior knowledge in relation to language proficiency, and to describe qualitative differences in L2 readers' inferencing according to topic familiarity and language proficiency. Subjects were native speakers of English enrolled in one university's foreign language programs. The sample consisted of 89 students of French (49 in a beginning level course, 40 in a more advanced course) and 77 students of Italian (43 beginners, 34 more advanced). Three newspaper articles in each language were selected and read in the appropriate language of study; subjects then wrote in English what they had read. Subjects then were asked to rank order the three articles according to their familiarity with the topics. Recall protocols were initially scored by determining the percentages of correct propositions. In addition, a list was established of inferences or propositions outside the narrow bounds of the original texts. To test the effects of proficiency and familiarity on performance, six ANCOVAS were conducted for the six passages read, using course grade as the covariate. Chi-square tests were conducted to determine if inferencing was related to L2 proficiency or prior knowledge. The results showed that for both language groups language proficiency was a strongly significant factor and familiarity rating was not. Although more proficient readers did comprehend more of what they read, the differences between most-familiar-topic recalls and least-familiar-topic recalls did not diminish with increased comprehension. No significant relation between background knowledge and amount of inference in recall was observed when all inferences were studied together. Among the Italian readers, however, a relation between language proficiency, self-reported familiarity, and logic of inferencing was evident. In addition, French readers recalled more logical inferences for which there was more direct support in their original texts and Italian readers recalled more illogical inferences without direct support from the texts.

ROYER, JAMES M., & CARLO, MARIA S. (1991, March). Transfer of comprehension skills from native to second language. *Journal of Reading, 34*, 450-455.

Investigates whether transfer occurs in reading and listening comprehension between L1 and L2 in bilingual programs. Subjects were 49 native Spanish speaking sixth grade pupils enrolled in a transitional bilingual program. Subjects took Sentence Verification Technique (SVT) tests in Spanish and English. Tests were based on second, fourth, and sixth grade reading textbooks. Tests were administered when the students were completing fifth grade and again at the end of sixth grade. Instruments were first given in Spanish and then one day later in English. The single best predictor of English reading performance at the end of sixth grade was Spanish reading performance at the end of fifth grade. Reading and listening skills in L1 did transfer to reading improvement in L2. The correlation coefficient between listening in Spanish in fifth grade and listening in Spanish in sixth grade was not significant, leading the researchers to conclude that general language ability did not appear to be significantly involved in the transfer of reading skills to the second language.

BACON, SUSAN M., & FINNEMANN, MICHAEL, D. (1990, Winter). A study of the attitudes, motives, and strategies of university foreign language students and their disposition to authentic oral and written input. *Modern Language Journal, 74*, 459-473.

Surveys first year Spanish students at two midwestern universities to identify a reliable set of learner beliefs associated with language learning (LL) strategies in general, and with the learner's anticipated cognitive and affective responses to authentic input in particular. The study survey, a Likert-style questionnaire, was developed through successive piloting with nonparticipating university students comparable to the study sample. Factor analysis resulted in the identification of 109 items of appropriate reliability for the final version. The questionnaire was administered to 1,000 university students enrolled in basic Spanish courses. Most students (95%) were taking Spanish to fulfill their university's requirement for foreign language study. Factor analysis performed on the completed questionnaires revealed 11 stable factors, of which 6 dealt with perceptions of language learning in general and 5 dealt with authentic input. Two of the general LL factors were motivational, one was attitudinal, and the remaining were practice oriented.

BENSOUSAN, MARSHA. (1990, February). Redundancy and the cohesion cloze. *Journal of Research in Reading, 13*, 18-37.

Uses cohesion cloze to determine how 65 native speakers of Hebrew make use of text redundancy or grammatical and lexical cohesion when reading English text on both the macro and micro levels. Cohesion cloze was administered as a take-home examination, and subjects were allowed to work in pairs. Cloze deletions tested students' recognition of the repetition of a word or its pronoun, a synonym, superordinate, or a generalization. Subjects filled in the blanks with words already found in the text. Answers were analyzed in terms of cohesion and coherence in the text. Students succeeded in using text redundancy to fill in the cloze. Items were separated into categories analyzing ease of understanding. A relation between anaphora and coherence contributed to reading ease or difficulty for these college students. Cohesive markers were helpful when there was redundancy of coherence and answers were determined by more than one clue in the text. Passages with single ideas were easier for the students than were those that contained ideas that were compared and contrasted or lacked redundancy.

IV-9 Vocabulary and word identification

MEALEY, DONNA, & KONOPAK, BONNIE. (1990, Fall). Content area vocabulary instruction: Is preteaching worth the effort? *Reading: Exploration and Discovery, 13*, 39-42.

Reviews recent research on the relation between preteaching content area vocabulary and subsequent comprehension and retention of content area material and suggests that teaching students strategies for becoming independent word learners is more significant than teaching them specific content terms.

KLESIUS, JANELL P., & SEARLES, EVELYN F. (1990, Summer). A meta-analysis of recent research in meaning vocabulary instruction. *Journal of Research and Development in Education, 23*, 226-235.

Conducts a meta-analysis of 15 research reports, including dissertations, on vocabulary instruction completed between 1983-1989. The studies were presented and discussed under four categories corresponding to the primary experimental method under investigation: CAI, keyword, semantically-linked imagery, and writing activities. Support was found for all the approaches studied except keyword. For children who were low ability readers, CAI and semantic-linked imagery were most effective.

D'ANNA, CATHERINE A.; ZECHMEISTER, EUGENE B.; & HALL, JAMES W. (1991, March). Toward a meaningful definition of vocabulary size. *Journal of Reading Behavior, 23*, 109-122.

Argues that estimates of vocabulary size are inaccurate because operational criteria of what constitutes a word are too liberal. Subjects were 62 undergraduate students, ranging in age from 18 to 22, enrolled in two psychology courses. A word was included in the frequency count if it was a main entry in the Oxford American Dictionary. Abbreviations, hyphenated words, affixes, contractions, letter names, multiword entries, slang, foreign words, or alternate spellings were not included in the count. A stratified sampling technique resulted in two pool lists containing 382 words and 18 nonwords. Four tests of 100 words each were prepared using the lists. The students were randomly assigned to one of the four test forms and asked to rate their familiarity of each word on a 5-point scale. The results of the analysis suggest that undergraduate students know the meanings of 16,785 words as compared to a potential lexicon of 26,901. While the estimates appear to be conservative, the researchers suggest that these figures may be overestimates of the number of words students know. Reasons for discrepancies in vocabulary size estimates are discussed.

MCKEOWN, MARGARET G., & CURTIS, MARY E. (EDS.). (1987). *The nature of vocabulary acquisition.* Hillsdale, NJ: Erlbaum.

Contains two major sections of five chapters each in which research is reviewed and synthesized about various aspects of vocabulary development. The first five chapters of the book deal with the development of knowledge of word meanings and on the nature and extent of vocabulary acquisition. The five chapters in the last half of the book focus on how word meanings can be promoted and on specific approaches for vocabulary instruction.

SHORE, WENDELYN J., & DURSO, FRANCIS T. (1990, June). Partial knowledge in vocabulary acquisition: General constraints and specific detail. *Journal of Educational Psychology, 82*, 315-318.

Investigates the effects of dictionary study of words of varying levels of knowledge (known, unknown, frontier) on recognition of their appropriate uses (meanings) in sentences. Subjects were 132 volunteers from a pool of introductory psychology students. All subjects were native English speakers and were comparable on the vocabulary subtest of the Shipley-Hartford Intelligence Test, the covariate for analysis. The experiment was a 2 (sentence type: constraint only or detail) × 2 (study: studied or not studied) × 3 (word level: unknown, frontier, or known) mixed factorial, with repeated measures on word level. Sentence types and study conditions were manipulated between subjects. The words for the experiment included 60 words that spanned the range of word knowledge and were presented in either a constraint-only sentence condition or a detail sentence condition. For each category of word familiarity within conditions, the proportions correct were computed. A MANCOVA, using vocabulary subtest scores as the covariate, revealed three significant main effects: (1) distinguishing between correct and incorrect sentences in the constraint-only condition was easier than in the detail condition; (2) studying the definition helped; and (3) the more familiar the word, the better subjects performed. In addition, significant interactions suggested that dictionary study produced the greatest benefit for unknown words and no benefit for known words; frontier words benefited an intermediate amount. Finally, studying dictionary definitions aided the learner only by supplying information.

LEIBERT, ROBERT E. (1991, February). The Dolch List revisited: An analysis of pupil responses then and now. *Reading Horizons, 31*, 217-227.

Provides recent information on the performance of pupils on the Dolch Word List. Data collected from an earlier study were used for this research. Children in the original study were selected from second through fourth grades in five urban schools. Twenty pupils were randomly drawn from each grade level and from each school, for a total of 100 pupils each from grades 2 and 3, and 96 pupils from grade 4. Words were presented in lists of 20. For the investigation reported here, incorrect responses were recorded and tabulated for each word. A table presents the average number of Dolch words pronounced correctly on the first trial by grade and by reader level. About 95% of pupils achieved mastery of the list by second reader level. The relative difficulty of the words for pupils today and those of about 50 years ago was done by comparing the easiest 110 words for current children with a similar listing provided by Dolch. The two lists differed by 15 words.

TYLER, ANDREA, & NAGY, WILLIAM. (1989, December). The acquisition of English derivational morphology. *Journal of Memory and Language, 28*, 649-667.

Reports three experiments conducted on subjects in fourth, sixth, and eighth grades to assess different aspects of their knowledge of English derivational suffixes. Experiment 1 assessed relational knowledge, the recognition that two words share a common morpheme. Experiment 2 assessed subject knowledge of the syntactic properties of suffixes. Experiment 3 assessed distributional knowledge that suffixes are constrained by the syntactic category of the base they attach to. Subjects were 40 fourth grade, 30 sixth grade, and 30 eighth grade pupils. All materials were paper and pencil tasks administered in individual test booklets. For Experiment 1, an ANOVA showed a main effect of grade. Older subjects were better at answering all types of items, but there was no substantial increase in the ability to recognize base morphemes between grades 4 and 8. In Experiment 2, ANOVA results also showed a main effect of grade, with older children more accurate in selecting the word whose syntactic properties best fit the sentence. All children performed better on real words than on invented words. A replication produced similar results. In Experiment 3, ANOVA results suggested a main effect of grade, of well-formedness, and of suffix type, as well as interactions for grade × well-formedness, and grade × well-formedness × suffix type. Subjects were able to distinguish well-formed from ill-formed derivatives, with difference in responses increasing with grade levels. Older subjects responded to more forms. Derivatives with neutral suffixes were accepted as words more often than suffixes with nonneutral derivatives. Results suggest that different aspects of knowledge about suffixes are acquired at different times.

Durkin, Kevin, & Shire, Beatrice. (1991, February). Primary school children's interpretations of lexical ambiguity in mathematical descriptions. *Journal of Research in Reading, 14,* 46-55.

Determines how primary grade children interpret lexical ambiguity in written descriptions of mathematical relations. Subjects were asked to identify the synonyms of ambiguous words presented in sentences biased toward either the usual, dominant sense of the word or the mathematical sense. The sample included 244 children recruited from several primary schools in the United Kingdom in the following age bands: 7 years (n=40), 8 years (n=74), 9 years (n=60), and 10 years (n=70). Test materials consisted of two six-page booklets of 18 sentences and their response options. Twelve of the 18 sentences in each form contained words that had a dominant meaning (usual) as well as a specialized meaning in mathematical contexts. The sentences were distributed across the two forms so that each target word appeared only once in each form. In one form a target word appeared in a sentence biased toward its dominant meaning; in the other, it appeared in a sentence biased toward its mathematical meaning. Children were administered both tests, approximately one week apart. A 4 (age) by 2 (sense) ANOVA, with sense as a within-subjects variable, revealed a main effect for age and sense. The dominant senses were identified correctly more often than the mathematical senses. Interactions were not significant. Performance was age related; errors were more likely in younger children. Further examination of error patterns with appropriate ANOVA testing revealed that children were more likely to select the dominant meaning for an ambiguous word in a mathematical context.

Bos, Candace S., & Anders, Patricia L. (1990, Winter). Effects of interactive vocabulary instruction on the vocabulary learning and reading comprehension of junior high learning disabled students. *Learning Disability Quarterly, 13,* 31-42.

Compares the effectiveness of three interactive vocabulary strategies: semantic mapping (SM), semantic feature analysis (SFA), and semantic/syntactic feature analysis (SSFA) with definition instruction (DI) for 61 LD junior high students. Learning was assessed at short and long term by vocabulary and comprehension, multiple-choice items, and written recalls. Prior knowledge and interest assessments also were administered. Vocabulary was selected from a passage on fossils, and definitions were generated and verified by content experts. Intervention consisted of eight 50-minute sessions taught over seven weeks, with practice and experimental sessions separated by two weeks. At the end of instruction, students completed both assessment measures. Students participating in the interactive strategies demonstrated greater comprehension and vocabulary learning on both assessments. At posttest, students in the SFA and SM conditions had learned more vocabulary than DI participants. At delayed recall, students in all three interactive conditions outperformed those in the definition condition. Comprehension scores were also higher for those in the interactive conditions, with students in the SSFA condition scoring significantly higher than those in the DI condition at

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follow-up testing. On written recalls, students in SSFA and SFA generated significantly more vocabulary and more conceptual units than students in the DI condition.

VISSER, ANNETTE. (1990, June). Learning vocabulary through underlying meanings: An investigation of an interactive technique. *RELC Journal, 21*, 11-28.

Studies the effects of a task-based vocabulary technique which focuses learners' attention on the underlying meaning of a word. Subjects were 16 adult learners enrolled in a three month second language program to prepare them for New Zealand universities. The study ran for 20 consecutive teaching days. Learners were exposed to different meanings of polysemous words taken from the Xue and Nation University Word List. Words were arranged in 20 groups of eight words. Those in the experimental condition received words, definitions, and accompanying tasks that involved application of the target words and identification of similar features or ideas in meanings. Those in the comparison treatment were exposed to a single meaning of the word and then performed three tasks relating to that meaning: collocation, sentence forming, and semantic field. Each day subjects completed a multiple-choice test over the words after instruction. Daily test scores were higher for the experimental group. Answer selection processes were different for both groups, suggesting that the experimental group made more use of context and the comparison group chose meanings that were most familiar. Quality of discussion over word meaning varied with time, with better discussion early in the treatment.

LOVELACE, EUGENE A., & COON, VICKY E. (1991, January). Aging and word finding: Reverse vocabulary and cloze tests. *Bulletin of Psychonomic Society, 29*, 33-35.

Compares the performance of 31 young college adults (M = 20 years) and 24 older adults from the community (M = 70 years) on two word-retrieval tasks. Subjects were administered two vocabulary tests (forward and reverse) and a cloze measure in two sessions. The vocabulary measure required participants to supply definitions for 43 orally presented nouns (forward) and to provide the word for orally provided definitions (reverse). The cloze test consisted of four passages taken from magazines in which 32 key words were deleted. Results indicate that older subjects could define words as well as or better than the college students but they had more difficulty thinking of the word when a definition was given. Scores on the cloze test were similar for both groups.

CAMPOS, ALFREDO. (1989, October). Pleasant words: Relation with concreteness and imagery values when stimuli are controlled. *Psychological Reports, 65*, 367-370.

Affirms that words are pleasant or unpleasant because of word meanings, not because of their concreteness or their imagery. Subjects were 160 university students in Spain who were enrolled in an introductory psychology course. Subjects scored each word on three 7-point scales ranging from high unpleasantness, little vividness or imagery; high abstractedness to very pleasant, very vivid imagery; and high concreteness. Words were presented randomly to small groups of students. No correlation was found between values of pleasantness and values of concreteness of words. No correlation was found between pleasant and imagery values of words. The imagery value of a word does not influence the fact that a word is pleasant or unpleasant. Imagery does influence the intensity of the pleasantness or the unpleasantness.

BOWEY, JUDITH A. (1990, July). Orthographic onsets and rimes as functional units of reading. *Memory & Cognition, 18*, 419-427.

Describes three experiments investigating the hypothesis that orthographic onsets and rhymes serve as units of visual word recognition for adults by contrasting primes that are identical in all but orthographic onset/rhyme unit status. Subjects in all experiments were undergraduates at the University of Queensland and numbered 40, 30, and 28, respectively. Experiment 1 was designed to find out whether the effectiveness of priming varied with rhyme unit status of the prime. Experimental words were named more quickly than controls, and priming produced shorter word-naming latencies than did the unprimed condition. In Experiment 2, the orthographic rhyme hypothesis was retested, using materials in which rhyme and nonrhyme primes had equivalent frequencies. Nonrhyme primes were again ineffective primes. In the final experiment, partial identity priming using word-initial bigrams was observed only when the bigram corresponded to the orthographic onset unit. Nononset bigrams were ineffective primes. The differential priming outcomes were felt to be consistent with the hypothesis that syllable onset and rhyme units serve as functional units of reading.

VAN DAAL, VICTOR H.P., & REITSMA, PIETER. (1989, September). Effects of independent word practice with segmented and whole-word sound feedback in disabled readers. *Journal of Research in Reading, 13,* 133-148.

Investigates the use of speech feedback in a computer-based word practice program on the reading performance of RD children. Subjects were 31 pupils from three different schools for special education in the Netherlands. The mean CA of the group was 9.9; their mean reading age on a standardized Dutch reading achievement test was 7.6. Three different conditions for independent practice in reading words in isolation were employed. For 17 subjects high-quality digitized speech was available as requested. When speech feedback was requested, either whole word sound was provided (n=8) or segmented word sound was presented (n=9). A control group (n=14) did not receive speech feedback. To assess practice effects, self-call behaviors during training and changes in reading rate and accuracy from pretest to posttest were analyzed. The posttest included both practiced and nonpracticed words. The observed overall proportion of requests for speech feedback was .46. The RD children needed speech feedback for almost half of the words they encountered. However, it was determined that speech feedback requests were not dependent on word difficulty. In addition, more calls for whole word sound were made than for segmented word sound, while latency times for whole word sound requests were shorter than for segmented word sound requests. Both forms of speech feedback were equally effective in reading practice words that were initially read incorrectly. However, there was a tendency for the learning effect on nonpracticed, initially hard-to-read words to be largest when segmented word sound had been available.

PETER, MIRA; LUKATELA, GEORGIJE; & TURVEY, M.T. (1990, September). Phonological priming: Failure to replicate in the rapid naming task. *Bulletin of the Psychonomic Society, 28,* 289-392.

Reports two experiments examining the use of phonological information in naming in English. Subjects for both experiments were college students who were given course credit for participating and numbered 60 and 80, respectively. In Experiment 1, subjects were assigned to one of four counterbalancing groups. Materials consisted of 88 rhyming word pairs, half of which were both graphemically and phonemically similar and half of which were phonemically similar only. Subjects viewed the prime on a computer screen followed by a second letter string below the fixation point. Primes and targets were both graphemically and phonetically similar, only phonemically similar, or unrelated. Subjects were to read aloud as rapidly as possible the second string. Latencies were measured from the onset of the target to the onset of the response. Experiment 2 replicated the first experiment, but a forward masking procedure was added. Findings did not reveal a significant priming effect.

PRINZMETAL, WILLIAM. (1990, August). Neon colors illuminate reading units. *Journal of Experimental Psychology: Human Perception and Performance, 16,* 584-597.

Looks at the influence of orthographic, phonological, and morphological structure on word perception. Subjects used in the six experiments were 12 adults who were paid for their participation. The stimuli were words or pseudowords (five to seven letters) which had a syllable break either before or just after the middle target letter. The target letter was overlaid with plaid red and green lines giving it an ambiguous neon color. The letters in front of or after the target letter were counterbalanced red or green. The words were presented one at a time, with the association task requiring subjects to indicate the color of the target letter by selecting from a sample set (Munsell chips). The color of ambiguously neon letters was influenced by orthographic and morphological structure of words in which the letters occurred (Experiments 1 and 6), but were not influenced by phonological components (Experiment 4). Subjects perceived a colored letter as more similar to other letters within the same syllable than to those outside the unit for both words and pseudowords (Experiment 1). The effects were similar with a brief exposure as with unlimited viewing time (Experiment 5) and were not a result of guessing (Experiments 2 and 3).

SANDRA, DOMINIEK. (1990, August). On the representation and processing of compound words: Automatic access to constituent morphemes does not occur. *Quarterly Journal of Experimental Psychology, 42A,* 529-567.

Tests, in three lexical decision experiments, the hypothesis that compound words are morphologically decomposed during recognition. Subjects for Experiment 1 were 40 students at Antwerp University in Belgium; the 36 subjects participating in each of the other two experiments were members of the scientific and administrative staff at Antwerp University. Using a computer, reaction times to semantically opaque compounds and pseudocompounds primed on either their initial or final constituent were assessed in Experiment 1. No priming effects were found. Findings of Experiment 2 indicated that both constituents in semantically transparent compounds are accessed. The third experiment was a replication and confirmed that final constituents of opaque compounds are not accessed, while those of transparent compounds are.

IV-10 Factors in interpretation

MANY, JOYCE E. (1991, March). The effects of stance and age level on children's literary responses. *Journal of Reading Behavior, 23,* 61-85.

Explores the effects of the grade level of the reader and the degree of aesthetic stance taken on the readers' personal understanding of three short stories. Subjects were from fourth, sixth, and eighth grade representing a range of socioeconomic levels in intact classes in one school district. Subjects wrote free responses to three realistic short stories. Data were collected in three separate episodes over nine weeks. Story order was randomized. Responses were coded for level of understanding, the degree to which the response was tied to the story events, and the level of abstraction reached in the response, and for stance on an efferent to aesthetic continuum. Two-way ANOVA revealed significant main effects for stance and grade on level of understanding for all three stories. Level of understanding increased with grade level and use of an aesthetic stance was associated with higher levels of personal understanding. No interaction effects were found between grade and stance on level of understanding.

FARBER, FRANCES D., & PUTNAM, LILLIAN R. (1986, Spring). Convergent/divergent predictions from Fall to Spring of urban first graders. *Journal of Clinical Reading, 2,* 23-26.

Compares the types of responses of 164 urban first graders when asked to predict the ending to a narrative story in the fall and again in the spring. First graders from urban classrooms using five different reading programs served as the sample for the study. The reading programs included analytic and synthetic phonics methods, language experience, and linguistic foci. In individual sessions children were read part of a narrative story and asked to tell how they thought the story would end. Responses were recorded, transcribed, and categorized as convergent, divergent, or no response. A comparison of responses across time illustrated that many more children were able to make predictions in the spring than in the fall, although 33% of the pupils made no predictions. An increase in convergent responses was noted in 16% of the children. The influence that story structure, inferencing, and prior knowledge have on the ability to predict are discussed in relation to developmental theory.

VAN OOSTENDORP, HERRE. (1991, February). Inferences and integrations made by readers of script-based texts. *Journal of Research in Reading, 14*, 3-20.

Investigates the extent to which readers perform inference and integration activities while reading simple stories. The study addressed whether readers infer related but implicit concepts (script arguments), and whether subjects search for earlier instantiations of semantically related or nonrelated concepts in the episodic memory structure (integration). In three experiments, subjects read stories with sentences mentioning concepts that were semantically highly related to the theme of a story or semantically less related to the theme by using either typical script or nonscript arguments. Reading style (normal reading rate) and reading instruction (direction to read carefully or fluently) also were varied. The subjects in each experiment included first year psychology students (n=48, n=36, n=48) who were tested individually in front of a computer screen. Dependent variables were reading times of the criterion sentences in Experiments 1 and 2 and fixation duration in Experiment 3. The results indicated that slow readers and readers with a careful reading instruction appeared to infer script arguments and integrated arguments to a high degree. Fast readers and readers with fluent reading instruction did not infer script information and showed few integrations. They seemed to constrain themselves to a context-evaluation strategy. The authors concluded that subjects who read slowly were doing something qualitatively different from those who read quickly. Furthermore, these differences appeared to be due to task conception rather than reading ability.

BEAL, CAROLE R. (1990, August). Development of knowledge about the role of inference in text comprehension. *Child Development, 61*, 1011-1023.

Investigates when children recognize that they make inferences to understand text, and how having this knowledge affects their ability to revise text and monitor its usefulness. First, second, and third grade children, ages 6 to 10 years, were presented with brief stories in which the physical cause of a target event was described explicitly, implied, or not mentioned in the text. Kindergarten children also were included in one of the four separate experiments. In three of the four experiments, children judged whether they had inferred a cause or if it had been explicitly mentioned in either a revised or an original version of the story. In the fourth experiment, children judged the difficulty of inferring the cause from problematic and ambiguous versions of the story. Results suggested that first and second grade children tended to report the causes that were explicitly mentioned and third grade children judged those that were inferred. Older, rather than younger, children were more likely to report difficulties in inferring the target information. Third graders frequently revised the text to include additional information about the causes of the target events. Younger children tended to attribute inferred information to the text while older children distinguished inferred and explicit text information.

Rowell, Jack A.; Moss, Peer D.; & Pope, Suzanne. (1990). The construction of meaning from text: Possible effects of different reading strategies. *Educational Psychology, 10*(1), 39-55.

Reports on the effects of using alternate reading strategies in the construction of differential meanings of a novel. Subjects were 106 graduate students who were assigned to part-book or whole-book treatments. Students in the part-book groups read the novel in sections with a new section designated weekly. No guidance was given on the importance of any events in the text. The whole-book groups were instructed to read the entire book. Subsequent weekly instructions were to reflect on designated sections of the book. The novel used in the study was 120 pages and easy to read in a short period of time. Posttests focused on similarity and attribute ratings of story characters. Results indicate that a difference in whole- and part-book approaches to the novel can result in different internal representations of a story. Implications are discussed in relation to reading more versus reading indepth.

Segal, Erwin M.; Duchan, Judith F.; & Scott, Paula J. (1991, January/March). The role of interclausal connectives in a narrative structuring: Evidence from adults' interpretations of simple stories. *Discourse Processes, 14*, 27-54.

Studies how adults interpret the relations between clauses in naturally occurring stories, both with and without the presence of connectives, in an attempt to discriminate among several alternative views of interclausal connectives: (1) an empty view, (2) a local cohesion view, (3) a global cohesion view, and (4) a mental model-deictic shift view. Participants were 84 college students who served to fulfill part of their course requirements. Materials consisted of eight stories dictated by a five-year-old child. Stories ranged from 7 to 15 clauses in length and were printed with one main clause per line. Of the 81 clauses, all but 23 are introduced by a connective. Subjects were divided into three groups, with each group presented the stories in a different format. All groups read the stories first in the original format. Group 1 then saw the stories again with an underlined space substituted for a missing connective; they were to fill in the connectives with one of five lexical items: *then, and, so, because, but*. Group 2 members were asked to identify the blanks with the logical relations between successive clauses from a set of four possibilities: *additive, temporal, causal,* and *adversative*. Group 3 was asked to indicate the logical relations between adjacent clauses, given the same four relations provided to Group 2. Findings suggested that interclausal connectives do carry meaning, they connect textual meanings at both local and global levels, and they mark discourse continuity and discontinuity both in the text and as inferred by the reader. There was support for the idea that deictic continuity principles influence the interpretation of narratives.

Gibbs, Raymond W., Jr.; Kushner, Julia M.; & Mills, W. Rob III. (1991, January). Authorial intentions and metaphor comprehension. *Journal of Psycholinguistic Research, 20*, 11-30.

Reports findings of three experiments on the effect of authorial intentions on interpretation. Participants were presented with a random list of metaphorical, literal, and anomalous comparisons and were told that the comparisons were either written by a computer program that randomly generated the statements or by famous 20th century poets. Subjects numbered 23, 31, and 16 undergraduates, respectively, in the three experiments. Experiment 1 examined whether subjects viewed the comparisons as being differentially meaningful when presented with the information about the sources; Experiment 2 studied the speed with which subjects noted the meaningfulness of the comparison statements when made by the two sources; and Experiment 3 studied whether participants produced most varied interpretations for the different comparison statements when they supposedly were written by an intentional agent, the poets, as opposed to when written by an unintentional source, a computer program. In Experiment 1, subjects read 54 comparison statements, 18 of which were metaphorical, 18 literal, and 18 anomalous. In the poet context, subjects were informed that the comparisons were from the works of famous 20th century poets and writers, while in the computer context, they were told that the comparisons were generated by a particular computer program that used a random word-generation technique to produce the different statements. Subjects first read 27 statements in either the poet or computer condition and then the remaining 27 statements in the other condition. They were then asked to rate each statement's degree of meaningfulness on a 7-point scale. Both metaphorical and literal statements were rated as more meaningful in the poet condition than in the computer condition. In Experiment 2, subjects were faster in making meaningful judgments for metaphors in the poet condition but slower in rejecting anomalous comparisons in the poet condition. For the third experiment, more meanings or interpretations for comparisons were produced in the poet condition than in the computer condition.

ROGERS, THERESA. (1990). The role of personal response in high school students' thematic interpretations of complex short stories. *English Quarterly, 23*, 51-61.

Seeks to examine the role of readers' subjectivity or personal response in thematic interpretations of short stories. Subjects were eight grade 9 volunteers, all scoring in the top 5 to 10% on standardized achievement tests. Each student met individually with the researcher for two 90-minute interviews. In the course of the session, students were asked to think-aloud while reading silently a short story and then to give a verbal thematic interpretation. Each think-aloud protocol was broken down into response units. In turn, response units were categorized into 11 reasoning operations and 6 inference source categories. Overall response patterns were considered to be textual in that most inferences were related to character and, to a lesser extent, structure. Only about 10% of responses were extratextual inferences. Some 6% of overall response units were associated with personal inferences, and over 30% of thematic generalizations were related to personal inferences.

JONES, JACQUELINE, & STONE, C. ADDISON. (1989, Fall). Metaphor comprehension by language learning disabled and normally achieving adolescent boys. *Learning Disability Quarterly, 12*, 251-260.

Examines the ability of 32 male adolescents, 16 language learning disabled (LLD) and 16 normally achieving (NA), to interpret 24 metaphors, each presented in the context of a three-sentence short story of similar structure. Effects of response mode (verbal explanation and paraphrase selection), order of response mode, and type of ground (perceptual attributes and psychological characteristics) were analyzed. Subjects ranged in age from 16 to 18 years, were of average intelligence (WISC-R, WAIS-R or, Lorge-Thorndike Intelligence Test), were all native speakers of English, and attended schools in middle-class and upper middle-class communities. All were tested with the PPVT-R to verify language deficits and to study the effect of general vocabulary knowledge on the metaphor comprehension task. Significantly fewer correct metaphor interpretations were made by the LLD subjects ($p < .001$). Differences between LLD and NA subjects were twice as large in the paraphrase selections. For both groups, metaphors were easier to interpret by paraphrase selection than by verbal explanation ($p < .001$). Perceptual metaphors were easier to interpret than psychological metaphors in the explanation condition, but not in the paraphrase selection condition. No qualitative differences were noted between the two groups. Poor performance of the LLD adolescents was not related to general vocabulary knowledge or to knowledge of task-specific vocabulary, as Pearson Product Moment coefficients indicated no significant correlations between the PPVT-R and the metaphor comprehension scores.

BENSOUSSAN, MARSHA. (1990). EFL reading as seen through translation and discourse analysis: Narrative vs. expository texts. *English for Specific Purposes, 9*, 49-66.

Examines reading problems of second language students as determined through discourse analysis of their translations. Two English-language texts, one expository and one narrative, were analyzed according to a list of discourse aspects. Students at Haifa University (n=105) enrolled in an advanced English as a Foreign Language course were asked to translate the expository text into their native language, Hebrew. In addition, 60 first year students were asked to translate the narrative text from English to their native languages, Hebrew (n=30) or Arabic (n=30). Both groups were judged approximately equal in level of English proficiency. Scorers evaluated the translations according to discourse aspects on macro- and microlevels of reading comprehension. For both text types, learners had difficulty with propositional content, vocabulary, and pronoun agreement. Communicative function appeared to cause difficulty in the narrative but not the expository text. Grammatical cohesion, in contrast, proved difficult in the expository but not the narrative text.

IV-11 Oral reading

SHARE, DAVID L. (1990). Self-correction rates in oral reading: Indices of efficient reading or artefact of text difficulty? *Educational Psychology, 10*, 181-186.

Compares self-correction rates in oral reading for younger good readers and older poor readers. Subjects included 12 high-progress readers, 6 first graders and 6 second graders, and 12 low-progress readers, 6 each at second and fourth grades; all subjects were from a primary school in New Zealand. Using scores on the Burt Word Reading Test, first graders were matched for reading accuracy with second grade low readers and the same was done for the good second grade readers with the low fourth grade readers. Pupils read aloud a series of graded passages from the Dunedin Information Prose Inventory and were stopped when their accuracy fell below 95%. Comprehension was assessed with questions following each passage. Self-correction rates were determined as a percentage of the total number of words read, and as a percentage of the total number of errors. One-way ANOVAS resulted in no statistically significant differences between groups on either index when reading identical passages at equivalent error rates. Self-correction rates correlated +.56 with reading accuracy when using the second index. No significant coefficients of correlation were found with reading comprehension. It was concluded that differences between high- and low-progress readers in self-correction rates may be a function of the failure to control text difficulty level.

ADAMS, ARLENE. (1991, January/February). The oral reading errors of readers with learning disabilities: Variations produced within the instructional and frustrational ranges. *Remedial and Special Education, 12*, 48-55, 62.

Compares the word recognition errors of 32 LD readers in grades 2, 5, 8, and 11 on instructional versus frustration passages. Eight LD readers from each of the four grade levels who attended the resource room served as the sample. Students were asked to read aloud different narrative texts which varied by grade level and included at least one at the instructional level and one at the frustration level. Oral readings were taped, transcribed, and analyzed for errors including basic miscues (substitutions, omissions, insertions, teacher provided), substitution types, reversal errors, and linguistic acceptability (syntactic and semantic). Findings showed that readers produced significantly fewer linguistically acceptable responses when reading frustration level materials than when reading instructional level materials. No differences were found in any of the other miscue categories when the two difficulty levels were compared.

MIRAMONTES, OFELIA B. (1990, December). A comparative study of English oral reading skills in differently schooled groups of Hispanic students. *Journal of Reading Behavior, 22*, 373-394.

Contrasts the English oral reading strategies of mixed dominant English/Spanish language pupils (MD) with the strategies of Hispanic pupils who were good English readers (GE) and those who were good Spanish readers reading in English (ESL). Sampled were 40 Mexican-American fourth, fifth, and sixth grade children from two urban districts in the Southwest: 10 GE readers whose first language was English and who had begun reading instruction in English; 10 good ESL readers whose first language was Spanish and who were competent Spanish readers and had begun the transition into English reading in the early part of grade 3; and 20 MD pupils who spoke only Spanish but whose schooling was conducted only in English. The latter group scored two or more years below expected grade level in reading on the English CTBS reading subtest, or failed to show grade level performance in Spanish as noted by teacher judgment or criterion referenced measures. Pupils read orally in individual 45-minute sessions. Oral reading miscues, retelling, and fluency patterns were examined. Overall, MD readers did not differ significantly from GE readers in retelling. GE pupils made significantly fewer miscues per number of words read than did the other groups. Factor analysis results indicated that the MD group was different in strategy use from the ESL group. Data also indicated that MD pupils were not a homogeneous group, with some strategies and skills that were underused.

CARR, THOMAS H., & BROWN, JOSEPH S. (1990, July). Perceptual abstraction and interactivity in repeated oral reading: Where do things stand? *Journal of Experimental Psychology: Learning, Memory, and Cognition, 16*, 731-738.

Reviews various research on context specificity in oral reading, arguing that the central question in the episodic-abstractionist debate in this area is not whether context specificity can be found, but what factors govern the relative contributions of text-level and lexical-level repetition. The authors propose a level of focal attention hypothesis, a strategy oriented version of transfer-appropriate processing.

SALEND, SPENCER J., & NOWAK, MIRIAM ROSLYN. (1988, Winter). Effects of peer-previewing on LD students' oral reading skills. *Learning Disabilities Quarterly, 11*, 47-53.

Investigates the efficacy of peer-previewing on the oral reading skills of LD children. Subjects were six elementary level pupils labeled LD and receiving supplemental reading instruction in a resource room situation. Prior to initiating the peer-previewing treatment, a frequency count was established for each of three target children's oral reading errors after silent reading of passages appropriate to their reading level. Pupils were then grouped in dyads, each containing a previewer and a target child. The previewer read aloud randomly assigned passages while the target pupil listened and followed along using a copy of the passage. Upon completion of each previewer's reading, the target pupil read the same passage and the teacher recorded his or her errors. Use of a multiple baseline design across subjects indicated a significant decrease in target children's oral reading errors following intervention. A notable improvement also was observed in target children's reading rates.

IV-12 Rate of reading

COHEN, JAY M., & WAISS, BRENDAL. (1991, February). Comparison of reading speed in normal observers through different forms of equivalent power low vision devices. *Optometry and Vision Science, 68*, 127-131.

Investigates the effect of four forms of a low vision device on the reading speed of normally sighted individuals. Subjects were 60 fourth year students and recent graduates from a college of optometry. Each subject was asked to read six short graded paragraphs of equal difficulty, one with each of four equivalent power low vision devices and two with only distance correction. Materials, selected from the GORT and the Revised Gray Oral Test, were typeset with two sets of column widths, a 2" wide column and a 5" wide column. The four devices tested included spectacles, hand magnifier, stand magnifier, and telemicroscope. Subjects initially read one text with best distance correction to determine a baseline reading speed. The remaining texts were read with each of the four devices and again with best distance correction. Time to read each paragraph was recorded. Subjects also were asked to rate each of the devices in order of preference. Reading speed with all of the optical devices except spectacles was significantly slower than the baseline condition. The order of reading speed with the four devices was spectacles, telemicroscope, hand magnifier, and stand magnifier. Reading speed was thus related to the size of the field of view afforded by each device. Order of preference was spectacles, stand magnifier, hand magnifier, and telemicroscope. Rate was not affected by column width. Even for the slowest device, rate was within 80% of normal reading speed.

UNDERWOOD, GEOFFREY; HUBBARD, ALISON; & WILKINSON, HOWARD. (1990, January/March). Eye fixations predict reading comprehension: The relationships between reading skill, reading speed, and visual inspection. *Language and Speech, 33*, 69-81.

Tests whether eye fixations are valid predictors of reading comprehension and reading speed. The subjects were 30 university students categorized as skilled readers and less-skilled readers based on reading comprehension and vocabulary test scores. Both groups read three stories (15 sentences each) while their eye movements were monitored for fixation locations and durations. The differences noted between skilled and less-skilled readers were associated with the durations of fixations. Fixation duration was a successful predictor of reading comprehension, whereas the number of fixations, the average fixation length, and the duration of the final fixation predicted reading speed. Skilled readers did not necessarily have the fastest reading rates.

IV-13 Other factors related to reading

TAYLOR, BARBARA M.; FRYE, BARBARA J.; & MARUYAMA, GEOFFREY M. (1990, Summer). Time spent reading and reading growth. *American Educational Research Journal, 27*, 351-362.

Focuses on the relation between time spent reading at home and at school and reading achievement. The 195 fifth and sixth grade pupils were asked to maintain reading logs from January through May. Logs were filled out each school day following each 50 minute reading class. Pupils were to record time spent on assigned reading and time spent on pleasure reading separately. Four means were calculated for each child: mean number of minutes per day of assigned reading at school, pleasure reading at school, assigned reading at home, and pleasure reading at home. For the final data analysis, only two means were employed: total reading time at home and total reading time at school. The comprehension section of the GMRT, Level D, was administered at the end of the study. Comprehension scores on the SRA Achievement Series, given prior to the start of the study, were used as a covariate in a stepwise multiple regression analysis. Pupils averaged 15.8 minutes of reading during the 50 minute reading class and 15 minutes per day at home. Minutes of reading per day during reading class contributed significantly to pupil achievement on the GMRT; minutes of reading

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per day at home did not reach, but approached, significance in contributing to growth in reading achievement.

Gortmaker, Steven L.; Salter, Charles A.; Walker, Deborah K.; & Dietz, William H., Jr. (1990, Winter). The impact of television viewing on mental aptitude and achievement: A longitudinal study. *Public Opinion Quarterly, 54*, 594-604.

Examines a large, random, national sample of U.S. children over an extended period of time to determine the effects of television viewing on IQ and achievement test scores. Subjects were children who had been included in both Cycle 2 and Cycle 3 of the National Health Examination Surveys in 1963-1965 and 1966-1970. Children were ages 6 to 11 years in Cycle 2 and 12 to 17 years in Cycle 3. In Cycle 2, parents were asked to indicate the amount of time their child spent watching television; in Cycle 3, children were asked to estimate the same information for themselves. Also administered at both times were the WISC and the Arithmetic and Reading subtests of the WRAT. For ages 12 to 17, there was a correlation coefficient of -.18 between amount of television viewed and IQ, -.14 between television viewing and WRAT Arithmetic, and -.17 between television viewing and WRAT Reading. Additional analyses all indicated that the amount of television viewing during childhood and adolescence was not a significant influence upon later test scores.

Walstad, William B., & Van Scyoc, Lee. (1990, Fall). The effects of textbooks on economics understanding and attitudes in high school economics courses. *Journal of Research and Development, 24*, 44-52.

Investigates factors that contribute to the knowledge of students about economics and to their attitudes toward the subject matter of their economics courses. Subjects were a representative national sample of 1,114 American senior high school students who were currently enrolled in a semester-long economics class. Subjects completed a Test of Economic Literacy to assess economics understanding and a Survey on Economic Attitudes. Data also were collected on student intelligence (Quick Word Test), teacher and school background and characteristics, student characteristics, and features of the course. Complete data sets were available for 991 of the original sample. Regression equations based on a flow model for economics learning and attitudes suggest a number of teacher, student, course, and school variables that affect economics learning and attitude formation. Economics understanding was highly influenced by intelligence and initial stock of economics knowledge. Level of student income was influential, as were school size, school location, and class orientation. Of the series of textbooks studied, only two textbooks were preferable to the use of no textbook. Several textbooks appeared to be significantly worse for students than no textbook at all. Attitude scores were increased when students had greater economics knowledge and higher socioeconomic status.

Lam, Chee M., & Beale, Ivan L. (1991, March/April). Relations among sustained attention, reading performance, and teachers' ratings of behavior problems. *Remedial and Special Education, 12*, 40-47.

Investigates whether student conduct, inattention, and hyperactivity factors account for teachers' ratings of behavior problems. Included were 174 children, ages 7 to 10, from a normal primary school in New Zealand. Correlation coefficients and ANOVAS were computed using individual scores on the Continuous Performance Test (computerized sustained attention task), the Connors Teacher Rating Scale (teacher rating of student behavior), the Delay Task (response task using a reinforcement schedule), and the Progressive Achievement Test (academic achievement). Results indicated that problems of attention lead to poor academic performance and overactive behavior rather than vice versa.

Bonner-Douglas, Madge. (1987, Fall). A study of the positive impact of parents' and teachers' attitudes and expectations on poor, black students who are successful readers. *Journal of Clinical Reading, 2*(3), 7-10.

Compares parents' and teachers' attitudes and expectations toward disadvantaged black children and individual reading success. Black sixth graders who scored above grade level (n=30) and below grade level (n=30) on the CAT served as the student sample. An attitude inventory and expectations survey were administered to the 60 parents of students. Eighteen teachers, past and present, of each group of students were questioned on their perceptions and expectations using two additional survey devices. Tests of significance were conducted using t-tests and chi-square analysis. Overall the findings indicate that there was a significant difference between attitudes and expectations of parents and teachers and actual reading achievement. Students who perceived negative attitudes and expectations were more likely to be unsuccessful readers. Parent attitudes toward the importance of reading did not differ significantly as a function of whether their children were successful or unsuccessful in reading.

Margolis, Howard, & Pica, Louis, Jr. (1989-1990). The effects of audiotaped progressive muscle relaxation training on the reading performance of emotionally disturbed adolescents. *Journal of Clinical Reading, 3*, 9-13.

Examines whether audiotaped progressive muscle relaxation (PMR) influences oral and silent reading performance of eight emotionally disturbed (ED) adolescents. ED students attending a private day school were assigned to the PMR or the counseling group (control). In two 20-minute sessions weekly, students in the PMR group were taught how to alternately tense and relax major muscle groups for brief periods of time, as well as how to become aware of their physical tension. The counseling group met weekly for one 45-minute session with the same school psychologist. No significant differences were found between the groups prior to treatment. The MAT was administered in September and late May to assess silent reading. At the end of each session, students read aloud for one minute from basal readers at their instructional level. The number of correctly pronounced words from these readings served as the oral reading measure. Posttest analysis indicates that the relaxation group performed significantly better than the counseling group on both silent and oral reading measures. Although PMR is not recommended as a replacement for counseling, it appears to promote gains in reading achievement in a more efficient manner.

Glover, John A. (1989). Reading ability and the calibrator of comprehension. *Educational Research Quarterly, 13*, 3-11.

Determines, in two experiments, the overall calibration of comprehension of two groups of students and then contrasts good and poor readers' abilities to calibrate comprehension. Calibration of comprehension is defined as the correlation between students' estimates of how well they have learned from reading materials and their actual test performance over the materials. For experiments 1 and 2, subjects were 240 undergraduates and 118 high school juniors and seniors, respectively. The same materials, two 2,000-word essays, were employed in both experiments. Subjects were administered the NDRT as a group; then in small groups of 8 to 12 students each, they were presented with one essay, followed by a confidence estimate sheet which asked them to estimate how many of 20 items they felt they would be able to answer correctly. The 20-item test followed. Based on NDRT scores, the 15 highest scoring and 15 lowest scoring students were then given the second passage in an additional calibration of comprehension task. Coefficients of correlation between students' estimates of confidence and their actual test performance were essentially zero for both total groups. When the good and poor readers were contrasted, it was found that good readers made significantly more accurate estimates of their performance than did poor readers.

IV-14 Factors related to reading disability

Stanovich, Keith E. (1991). Discrepancy definitions of reading disability: Has intelligence led us astray? *Reading Research Quarterly, 26*, 7-29.

Cites research and other writing in building an argument against the use of intelligence test scores as a means of defining reading disability and of using such scores to differentiate dyslexics from poor readers in general. It is proposed that listening comprehension is a superior means of assessing for aptitude/achievement discrepancies. However, all discrepancy definitions based on the mismatch between aptitude and achievement are questioned by findings that the acquisition of literacy fosters the very cognitive skills that are assessed on aptitude measures. It is concluded that the validity of a severe discrepancy between aptitude and achievement as the defining element of dyslexia is not yet established to an extent that would justify educational classification or treatment.

Snowling, Margaret J. (1991, January). Developmental reading disorders. *Journal of Child Psychology and Psychiatry, 32*, 49-77.

Reviews research completed from 1985 to 1990 on developmental reading disorders. Specific areas of discussion included research investigations relative to the assessment and classification of reading disorders, issues of epidemiology, the relation of biological factors (genetic, laterality, and immune disorders) to reading disorders, psychological processes associated with reading difficulties, cognitive deficits (visual problems, phonological awareness, verbal memory problems, repetition deficits, and perceptual problems), written language processing in dyslexia, and finally, research examining alternative treatments with dyslexic children. The author concluded that an extensive amount of research has been conducted in this five-year span, that much has been learned, and that significant questions remain.

Bader, Lois A., & Pearce, Daniel L. (1983/1984). Severe reading disability in public school students: A study. *Journal of Clinical Reading, 1*, 22-27.

Describes and compares factors that influence the reading difficulties of 30 severely disabled readers. Remedial specialists participating in a university-based advanced clinic selected from their case loads two students who appeared to have the most severe difficulty in learning to read. Problem factors associated with disabled readers were identified for each subject through testing, observation, and examination of records. Profiles indicated multiple identified factors present for each student. Continuity of instruction, visual difficulties, and emotional adjustment were the three most frequently cited factors contributing to reading difficulty. A comparison is provided of these results with those found in Robinson's 1946 study. Strong similarities between the two studies were found indicating that the model proposed by Robinson over 40 years ago is relevant today.

LaBuda, Michele C., & DeFries, J.C. (1988). Genetic and environmental etiologies of reading disability: A twin study. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. *38*, pp. 131-138). Baltimore, MD: Orton Dyslexia Society.

Applies a multiple regression analysis to twin data from the Colorado Reading Project in order to assess the environmental etiologies of reading disability. Data are based on 75 MZ (monozygotic) and 59 DZ (dizygotic) twin pairs in which at least one member of each pair was diagnosed as reading disabled. Normal reading control children (n=140) also were tested and matched to the disabled subjects on the basis of age, gender, and zygosity. Average age of twins in the sample was 12.7 years. Standardized test scores were obtained for reading recognition, reading comprehension, spelling, coding, digit span, and perceptual speed. Results indicated that about 40% of the deficit observed in disabled readers was due to genetic factors, 35% to environmental influences shared by members of twin pairs, and about 25% was the result of environmental factors unique to the individual and/or error variance.

GOULD, J.H., & GLENCROSS, D.J. (1990). Do children with a specific reading disability have a general serial-ordering deficit? *Neuropsychologia, 28*, 271-278.

Compares good and poor readers' sequential ordering abilities. Subjects were 40 children selected from three metropolitan primary schools. The 20 children considered to be poor readers were all of average to high average ability according to the WISC-R, but were reading two years below their CA according to the NARA. The poor readers were matched on sex, age, verbal performance, and IQ with 20 children judged by their teachers to be good readers. All subjects were administered an adaptation of Hebb's repeated digit task and its spatial counterpart, the Corsi Blocks Span task. For good readers, performance on the digit span task was considerably better than on the block span task, but not so for poor readers who performed similarly on the two tasks. The results support a verbal coding hypothesis rather than a general serial order hypothesis. Poor readers do not have a general serial order deficit, but a more specific verbal processing deficit.

FLETCHER, CLAIRE M., & PRIOR, MARGOT R. (1990, August). The rule learning behavior of reading disabled and normal children as a function of task characteristics and instruction. *Journal of Experimental Child Psychology, 50*, 39-58.

Investigates rule learning in RD and normal children who were required to abstract rules independently and to use rules after a period of instruction. Children were matched on CA and RA. During individual test administrations, subjects were given two sets of stimuli, a shape task and a letter task. Subjects completed nine problems following a set sequence of training and rule learning on the various conjunction, disjunction, or conditional rule types. At completion, an informal tutoring session was given on rules, followed by a posttest. No differences were found in rate of problem solving on independent rule abstraction, but RD children made a greater proportion of errors on the negative instances of more complex problems. After instruction, normal children made more errors than the other groups. A second study used pseudowords. RD children were less accurate than the normal children when they had to abstract the rule of *e*. Overall error patterns were similar for both groups. No differences were found after instruction in rule application, but differences were noted in types of error patterns. Posttests after three days indicated no difference between groups on pseudoword pronunciations or on using words which were rule exemplars. RD children were able to learn and to generalize rules to other words. Patterns suggest a phonological deficit that interferes with rule learning and a more general language deficit that includes psycholinguistic categorization and phonological coding.

BRUCK, MAGGIE, & TREIMAN, REBECCA. (1990, August). Phonological awareness and spelling in normal children and dyslexics: The case of initial consonant clusters. *Journal of Experimental Child Psychology, 50*, 156-178.

Analyzes the phonological awareness and spelling skills of both normal first and second grade learners and dyslexics who scored at the same level as the normal pupils on a standardized spelling test. The subjects were 56 pupils including 17 first graders, 16 second graders, and 23 dyslexics (mean CA of 10.2 years). The first and second graders were selected on the basis of successful completion of an articulation screening pretest and at least average grade level scores on both the reading and spelling subtests of the WRAT-R. The dyslexics were included if they successfully completed the articulation pretest and scored at or below the 32nd percentile for their age on the reading and spelling subtests of the WRAT-R. The groups were considered matched in spelling ability. All subjects were administered five experimental tasks: auditory recognition, auditory deletion, visual deletion, word spelling, and nonword spelling. Normal subjects completed the tasks in three sessions of about 30 minutes each; dyslexics were seen in two sessions of about 60 minutes each. The data were analyzed using ANOVAS across subjects and across stimuli followed by additional t-tests. Results indicated that both groups had difficulty with consonants in word-initial clusters in a phoneme recognition task and a phoneme deletion task. Both groups also had difficulty producing correct spellings of syllables with initial clusters, sometimes failing to represent the second consonant of the clusters. The dyslexics' phonological awareness and spelling skills were poorer than those of the younger normal children, but the two groups showed similar patterns of performance.

HØIEN, TORLEIV, & LUNDBERG, INGVAR. (1989). A strategy for assessing problems in word recognition among dyslexics. *Scandinavian Journal of Educational Research, 33*, 185-201.

Proposes a specific version of the dual-route model in identifying the word recognition difficulties of a dyslexic. The dual-route theory posits two basic possibilities for identifying a printed word: one based on orthographic pattern recognition, and the other using the phonological system for decoding the letter strings to the corresponding phonological output. Described is a computer-based test battery involving oral reading tasks, lexical decision, rhyme detection, letter categorization, visual analysis, naming, and semantic categorization. Two case studies of 15-year-old dyslexic males are presented in illustrating the assessment strategy. The cases demonstrate differences in abilities between the two dyslexics as identified by the assessment program.

KITZ, WILLIAM R., & TARVER, SARA G. (1989). Comparison of dyslexic and nondyslexic adults on decoding and phonemic awareness tasks. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. *39*, pp. 196-205). Baltimore, MD: Orton Dyslexia Society.

Conducts a study to determine whether college-aged dyslexic subjects differ significantly from nondyslexic peers on two measures of phonemic awareness skills. Subjects included 10 midwestern university undergraduates participating in a special language remediation program (dyslexics) and 10 nondyslexics from the same university. WRAT Reading Subtest scores for the dyslexics ranged from grade levels 7.6 to 9.6, and for nondyslexics, from 9.2 to 12.2. Instruments administered included the Phonic Patterns subtest of the Decoding Skills Test (DST) and the Phoneme Reversal Test (PRT). Dyslexics' response time on the PRT was significantly greater than that of nondyslexics. Indices obtained from the DST also favored nondyslexics. Findings were interpreted as indicating that, even though the reading skills of dyslexics had improved, there still remained a fundamental deficit in their ability to process phonological information quickly and accurately.

BEN-DROR, ILANA; POLLATSEK, ALEXANDER; & SCARPATI, STAN. (1991, May). Word identification in isolation and in context by college dyslexic students. *Brain and Language, 40*, 471-490.

Assesses the word identification skills of college dyslexic students in isolation and in context and compares their performance to that of control subjects matched either in CA or RA. The college dyslexic sample (DYS) included 20 university students of average mental ability (mean IQ of 106 on the WAIS-R) and below average reading achievement (below the 40th percentile on the WRMT-R). The chronological age-match control group (CA) was comprised of 20 university students matched on age and IQ (mean IQ of 107 on the WAIS-R). The reading age-matched control group (RA) consisted of 20 normal readers with a mean age of 11.7 who were matched with the DYS subjects on the basis of their word identification level. Word identification was assessed on computer presented tasks involving the reading of words (25) and nonwords (25), reading regular (39) and irregular (39) words, and reading 60 words that were initially presented in sentence contexts. Reaction times and percentages of errors were tabulated and subjected to analyses to examine between-group differences. It was found that the DYS group had the slowest naming latency for words on all tasks. In addition, this group's members exhibited extreme difficulty in naming nonwords, which in terms of the dual-route model for word recognition indicates impairment in the indirect route to the lexicon. They did display a regularity effect in reading regular and irregular words and appeared to use the indirect route in reading words. Correlational data supported the conclusion that the findings were in conflict with the traditional dual-route model, and an alternative conceptualization was suggested. In the use of context, the findings were supportive of the interactive-compensatory model. Overall, the DYS subjects appeared to be different from the RA controls; their performance did not support a developmental-lag model for explaining their reading problems.

SHAPIRO, KIMRON L.; OGDEN, NANCY; & LIND-BLAD, FAINE. (1990, February). Temporal processing in dyslexia. *Journal of Learning Disabilities, 23*, 99-107.

Compares dyslexics and nondyslexics' ability to identify two syllable words (sequential processing) and one syllable words (simultaneous processing). Subjects were 15 children ranging in age from 10-3 to 14-9 years, classified as dyslexic and who scored at or above fourth grade level on the Ekwall Reading Inventory. Subjects were matched with 15 nondisabled children reading at fourth grade level and ranging in age from 9-3 to 11-3 (reading matched controls) and 15 nondisabled children reading at sixth grade level and ranging in age from 11-2 to 12-7 years (age matched controls). To evaluate speed of word identification, words of one and two syllables were displayed, one at a time, on a visual display terminal at rates of 100 and 300 msec. A display of all words used in the experiment at a rate of 3,000 msec ensured that failure to read a word at a faster rate was not due to recognition inability, but to temporal constraints. Results of a 3 (group) x 2 (display duration) x 2 (word length) ANCOVA with age as a covariate revealed evidence of decreased word identification by dyslexics in the two-syllable 300-msec condition. No evidence of eye movement differences that might account for the above results were forthcoming in a follow-up experiment. The results are offered in support of the theory that sequential dysfunction is a contributing factor to dyslexia.

SWANSON, H. LEE, & COCHRAN, KATHRYN F. (1991, February). Learning disabilities, distinctive encoding, and hemispheric resources. *Brain and Language, 40*, 202-230.

Attempts to isolate possible sources of learning ability differences in distinctive encoding of item-specific and relational information in two experiments. In Experiment 1, LD and non-LD children's word recall was compared on dichotic listening recall tasks that included nonorienting instructions and orienting instructions that directed children's attention toward semantic, phonemic, or structural word features. LD children showed lower recall and more diffuse selective attention to word features than non-LD children. Reciprocity (negative correlations) between targeted and background words within and between ability groups was comparable, except when targeted word features were phonemically organized. Experiment 2 indicated that LD children's cued recall was inferior to that of non-LD children, even though both ability groups produced comparable symmetrical recall patterns related to ear presentations. Considered together, the results suggest that the locus of disabled children's distinctive encoding deficiencies is related to resource monitoring strategies during interhemispheric processing.

BAKKER, DIRK J.; BOUMA, ANKE; & GARDIEN, CAREY J. (1990, August/September). Hemisphere-specific treatment of dyslexic subtypes: A field experiment. *Journal of Learning Disabilities, 23*, 433-438.

Conducts a nationwide field experiment to study the effects of hemisphere-specific treatments on the reading performance of P- and L-type dyslexics in Holland. P-dyslexics included readers who started the learning to read process with the appropriate generation of right hemispheric strategies focused on the perceptual features of text, but who inappropriately persisted with right hemispheric strategies and manifested a relatively slow and fragmented style of reading. L-dyslexics generated left hemispheric strategies from the onset of the learning-to-read process, were insensitive to the perceptual features of text, and made inappropiate use of linguistic strategies. They manifested a hurried and inaccurate style of reading. With the assistance of 56 remedial teachers, 174 subjects were screened using an oral reading measure. A child was classified an L-dyslexic (n=49) when both the number of substantive errors (SEs), including omissions, additions, and word mutilations, was above the group average and the number of fragmentation errors (FEs), including hesitations and word repetitions, was equal to or below the group average. A child was considered a P-dyslexic (n=49) when both the number of FEs was above group average and the number of SEs was equal to or below the group average. Within each classification, subjects were randomly assigned to either a control or experimental group. The experimental group of 28 L-dyslexic children (mean chronological and reading ages of 10.6 and 7.5 respectively) received hemisphere-specific stimulation (HSS) of the right hemisphere by the presentation of words to the fingers of the left hand. The experimental group of 26 P-dyslexic children (mean chronological and reading ages of 9.4 and 7.2 respectively) received HSS of the left hemisphere by the presentation of words to the fingers of the right hand. The control subjects in each group were treated according to the discretion of the remedial teachers. The effects of training were assessed by comparing their pre-, during, and poststudy performance on oral reading and word reading tasks. The results showed that HSS-treated L-dyslexics tended to show larger improvement of accuracy in text reading in comparison to the control group, and the HSS-treated P-dyslexics showed larger improvement of fluency in word reading in comparison to the controls.

DAVIDSON, RICHARD J.; LESLIE, SUSAN C.; & SARON, CLIFFORD. (1990). Reaction time measures of interhemispheric transfer time in reading disabled and normal children. *Neuropsychologia, 28*(5), 471-485.

Asks whether RD boys differ from normal reading matched-for-age controls on behavioral measures of interhemispheric transfer time (IHTT). Subjects included 25 RD boys and 25 controls, ages 9 to 12, selected on the basis of performance on a battery of neuropsychological tests. All had full scale WISC-R scores of 90 or above. Measures of IHTT were obtained from RTs to simple visual and tactile stimuli. Eight conditions were run, four conditions within each of the two modalities. Half of the trials were conducted with the subjects' hands in an uncrossed orientation and half with the hands crossed in an effort to examine the effects of spatial compatibility on estimates of IHTT. The findings indicated that there were no overall group differences in IHTT for any of the conditions. Coefficients of correlation between IHTT measures and indices of cognitive performance revealed that faster IHTTs were significantly correlated with poorer performance on three reading measures in the dyslexic group. Coefficients in the range of .40 and .47 were found with the Woodcock Word Attack subtest, the Woodcock Word Identification subtest, and the GORT.

LOVENSTEIN, L. (1989, Summer). Recent investigations and directions in the study of dyslexia. *Education, 109*, 424-431.

Reviews selected research literature dealing with three aspects of dyslexia: (1) causes and associated related factors, (2) diagnosis, and (3) therapeutic or remedial treatment approaches.

CHIARENZA, GIUSEPPE AUGUSTO. (1990, June/July). Motor-perceptual function in children with developmental reading disorders: Neuropsychophysiological analysis. *Journal of Learning Disabilities, 23*, 375-385.

Compares the motor performances and movement related macropotentials (MRBMS) of children with developmental reading disorders with those of nondisabled children. Subjects were eight males diagnosed with developmental reading disorders and nine normal males. All subjects were in the 10-year age range, came from middle SES families, and were from the same area of Milan, Italy. Subjects completed four blocks of 25 sequential trials of the Skilled Motor Perceptual Task (SMPT), each trial requiring subjects to initiate the sweep of an oscilloscope with a self-paced movement and terminate it within 50 +/- 10 msecs. EMG and MRBMS were recorded as the subject performed the SMPT trials within nine time intervals according to various specifications. Statistical comparisons of the data indicated performance by RD children was significantly slower and less accurate than that of nondisabled children. RD children realized fewer target performances on the SMPT than nondisabled children. For RD children, systems involved in motor programming, sensory information processing, and error verification and correction were altered in latency and amplitude.

SOLMAN, ROBERT T.; DAIN, STEPHEN J.; & KEECH, SARAH L. (1991, May). Color-mediated contrast sensitivity in disabled readers. *Optometry and Vision Science, 68*, 331-337.

Notes the effects of color manipulations of filters on the contrast sensitivity judgments made by disabled and good readers. Subjects included 20 RD children from the Year 5 classes in four primary schools in Sydney, Australia, and 20 good readers from the same schools. Children were matched for age and sex. Pupils viewed a target on a computer screen through clear and various colored filters and were to select their best and worst colored filter. Each child then was asked to give a single contrast sensitivity judgment to each of six plates while rating their best color, their worst color, clear, and gray spectacle frame-mounted filters. For RD children, the difference between best and worst colored filters was greater than for good readers. RD children's contrast sensitivity declined sharply as the spatial frequency moved into the range of normal print. Little change in sensitivity for good readers occurred using their best filters. The authors warn that their findings should not be interpreted as supporting the use of prescribed colored optical filters as a remediation technique for reading disability.

O'CONNOR, PETER D.; SOFO, FRANK; KENDALL, LAURIE; & OLSEN, GERRY. (1990, December). Reading disabilities and the effects of colored filters. *Journal of Learning Disabilities, 23*, 597-603, 620.

Reviews recent research and examines the effects of color filter overlays on scotopic and nonscotopic children having reading difficulties. Subjects were 92 Australian children in grades 2 through 6. All had at least average ability as demonstrated on school administered IQ tests and were reading at least 18 months below grade level according to their teacher's opinions. Subjects were screened with the Irlen Differential Perceptual Scale which identified them as scotopic or nonscotopic. Scotopic and nonscotopic children were then randomly assigned to treatment groups in which they read with a preferred colored, a random different colored, or a clear overlay filter. ANOVA and posthoc test procedures applied to pre- and postreading performance data (rate, accuracy, and comprehension) obtained on the NARA and the Formal Reading Inventory indicated significant improvements for scotopic children who read with preferred colored overlay filters as compared to different or clear overlay filters. No improvements in reading were noted for nonscotopic children.

Catts, Hugh W. (1989, August). Speech production deficits in developmental dyslexia. *Journal of Speech and Hearing Disorders, 54*, 422-428.

Investigates the problems dyslexics may have in articulating and planning speech sound sequences. Subjects were 17 dyslexic and 17 nondisabled college students of at least average ability. Subjects were asked to produce betweeen 11 and 15 rapid multiple repetitions of a series of complex and less complex phrases presented by the experimenter. Subjects' productions of phrases were recorded and later analyzed in terms of the speed and accuracy of the first 10 productions of each phrase. MANOVA procedures applied to the speed and accuracy data indicated dyslexic subjects produced longer phrase durations than normal subjects for both complex and less complex phrases. Dyslexics also made significantly more errors than normal subjects in repeating complex phrases. No group differences were observed in the repetition of simple phrases.

Bogdanowicz, Marta. (1989). Diagnosis and treatment of children with reading and writing difficulties in Poland. *International Journal of Disability, Development and Education, 36*(2), 151-161.

Explores the nature and incidence of dyslexia, dysorthography, and dysgraphy in Poland and reports programs for remediation of these conditions. Studies conducted between 1968 and 1973 suggested that of 390 pupils tested in a large urban area, 13% were experiencing problems in dysorthography and 10% with dyslexia. Approximately 17% of country children had dyslexic or dysorthographic difficulties. A follow-up study 10 years later revealed that for 30 persons of the original group, the same perceptual-motor difficulties existed. A pedagogic-therapeutic system of treating children with reading and writing difficulties began after World War II and continues, with psychomotor rehabilitation and psychodidactic rehabilitation common to several programs. Special programs for children called "The Day Ward" were also initiated, as were special kindergarten programs and handbooks and regulations for therapists. Programs through the year 1983 are discussed.

Macaruso, Paul; Bar-Shalom, Eva; Crain, Stephen; & Shankweiler, Donald. (1989, January/March). Comprehension of temporal terms by good and poor readers. *Language and Speech, 32*, 45-67.

Seeks explanation, in two experiments, for poor readers' comprehension difficulties with spoken sentences containing the temporal terms *before* and *after*. Of specific interest is whether poor readers' comprehension difficulties are due to processing limitations or to a lag in the emergence of syntactic complexity. Subjects for both experiments were second graders from a suburban public school who had at least a normal vocabulary according to the PPVT. They were assigned to a good reader group (n=14) or a poor reader group (n=14) based on their performance on the Decoding Skills Test. In Experiment 1, an object manipulation test was used to assess subjects' comprehension of 12 sentences, 6 of which had conflict between conceptual order and order of mention through the use of *before* and *after* (the conflict condition) and 6 of which had a correspondence between conceptual order and order of mention (the correspondence condition). Results of the ANOVA procedures applied to the data called into question the hypothesis that poor readers lack the structural knowledge required to understand temporal terms. The differences between reader groups in ordering errors did not reach significance. Limited support for the processing limitation hypothesis suggested the need for Experiment 2 in which processing demands in the sentences administered were manipulated so that in case 1 processing load was increased beyond the level imposed in Experiment 1, and in case 2, the burden on memory was decreased. ANOVA results clearly demonstrated that unlike good readers, poor readers' ability to successfully act out sentences containing *before* and *after* is influenced by changes in processing demands.

MONTAGUE, MARJORIE; MADDUX, CLEBORNE D.; & DERESHIWSKY, MARY I. (1990, March). Story grammar and comprehension and production of narrative prose by students with learning disabilities. *Journal of Learning Disabilities, 23*, 190-197.

Compares performance of nondisabled subjects and LD subjects on two tasks requiring active processing of story grammar. Participants in the study were 12 subjects with LD and 12 subjects without LD (NLD) selected randomly from each of three grade levels: intermediate, junior high, and senior high. For task 1, subjects were required to simultaneously read and listen to a story that conformed to a canonical story grammar framework, and to retell it as they read and heard it. For task 2, subjects were required to finish writing a story after being given a story starter. Qualitative and quantitative techniques were used to score both protocols. A series of MANOVA procedures, univariate f-tests, and discriminant analyses applied to the data showed no evidence of developmental differences in relation to either story comprehension or production performance. However, there were significant differences between LD and NLD students in the amount and type of information retold and written. NLD students, in comparison to LD students, demonstrated superior performance on both tasks.

SHAFRIR, URI; SIEGEL, LINDA S.; & CHEE, MIN-NA. (1990, October). Learning disability, inferential skills, and postfailure reflectivity. *Journal of Learning Disabilities, 23*, 506-513, 517.

Compares the performance of LD children with that of normally achieving children (NA) on two aspects of problem solving: inferential skills and response to errors in an academic, content-free task. The sample included 33 NA children and 69 LD children, aged 7.10 to 16.4. The LD children were subtyped in two different ways: (1) as children with only an arithmetic disability (AD), or with both arithmetic and word recognition disabilities (AD/WRD), and (2) as children with LD and attention deficit disorder (ADD), or LD without ADD. Each subject was administered the Vocabulary and Block Design subtests of the WISC-R, the Reading and Arithmetic subtests of the WRAT, and the PAR. The PAR task was a computer-based, self-paced learning sequence designed to monitor the individual's behavior on an inference task, in terms of pre- and postresponse latencies, for successful and failed performance. This task yielded the two main variables for analyses: an accuracy score and a scaled postfailure reflectivity. Scores on PAR for the three different groupings of subjects were tested using three separate ANOVAS. Results showed that on inferential skills, children with LD (without subtyping), children with AD/WRD, and children with LD with and without ADD scored significantly lower on the PAR task than children in the NA group. A significant interaction was found between the NA and LD groups and age. Children with LD improved their scores on PAR with age significantly more than NA children. On attention to errors, children with both arithmetic and word recognition disabilities scored significantly lower than children with only an arithmetic disability or NA. It appeared that the metacognitive skill of monitoring errors may be a major source of difficulty in problem solving for children with both arithmetic and word recognition disabilities.

FLETCHER, JAMES M. (1990, July/September). Component skill comparisons across reading level and processing demand. *Reading Psychology: An International Quarterly, 11*, 193-239.

Provides a comparative componential skill analysis across both reading proficiency levels and task processing demands. Subjects were 60 adolescents, primarily 14 to 15 years old, with 60% males. Of the total, 25 were designated as comprehension disabled and 35 as nondisabled readers. Stimuli consisted of 20 individually presented, one-line sentences consisting of four equally numbered sentence types representing both high (erred) and low (control) levels of the processing demand condition. Eye movements were monitored and seven measures obtained while subjects read the sentences, half of which contained either a semantic anomaly or syntactic ambiguity. Multiple regression procedures were used in analyzing data. Results indicated that much of the variability in eye movements was left unaccounted for, particularly among nondisabled readers. Semantic and syntactic competencies seemed to be significant predictors. Sequencing and, to a lesser extent, spatial ability were critical in the predictor models. Eye movement indices seemed to be differentially sensitive to predictors, with saccade length being the most sensitive.

Aaron, P.G.; Kuchta, Steven; & Grapenthin, Cindy Taylor. (1988). Is there a thing called dyslexia? In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. *38*, pp. 33-49). Baltimore, MD: Orton Dyslexia Society.

Designs an investigation to determine if developmental dyslexia is qualitatively different from general reading backwardness with reference to etiology. Three groups of 12 children each were identified: poor readers with normal listening comprehension (NLC), poor readers with poor listening comprehension (PLC), and a control group of normal readers matched for reading comprehension. The children were assessed for strengths and weaknesses in two components of reading: decoding and comprehension. A cloze test was used to assess comprehension, while decoding was assessed by measures of decoding, oral reading errors, reading speed, spelling, and context dependency for word recognition. The two groups of poor readers also were administered the WISC-R. MANOVA procedures were used in the analysis. NLC children performed poorly on tasks requiring the use of grapheme-phoneme relationship, but on comprehension tasks their performance resembled that of normal controls. PLC children made more comprehension errors than did the NCL children, even when decoding requirements were minimized. PLC readers had below average IQs and were designated as general reading backward, while NLC readers had average or above average IQs and were designated as conforming to the traditional definition of dyslexia. It was concluded that the etiology of developmental dyslexia was different from that of general reading backwardness.

Wolf, Maryanne. (1991). Naming speed and reading: The contribution of the cognitive neurosciences. *Reading Research Quarterly, 26*, 123-141.

Discusses in a two-part essay how research in the developmental cognitive neurosciences can contribute to an understanding of the relations between aspects of naming and reading processes. In the first section, reviewed are findings from both neuropsychological and reading research on letter naming and general naming speed. Methodological differences between discrete-trial and continuous naming formats are analyzed. The findings are interpreted as indicating that the relations between subprocesses change both with development and as the cognitive requirements for naming and reading tasks become more differentiated. In addition, the findings from a number of studies suggest the existence of a naming-rate deficit persisting into middle childhood that differentiates the dyslexic from the average and the generally poor reader. A second segment of the article speculates about the relations between naming and reading deficits as causal or associative, and about associations between deficits in naming speed and deficits in motoric speed. Three possible conditions for reading failure are suggested: (1) the failure of an underlying temporal processing mechanism, leading to a general propensity toward slower functioning in linguistic and possibly motor functions; (2) temporal processing failure plus one or more specific, major subsystem failures (phonology, working memory, lexical representation, or comprehension processes); or (3) a specific, major subsystem failure.

Cornoldi, Cesare. (1990, Fall). Metacognitive control processes and memory deficits in poor comprehenders. *Learning Disability Quarterly, 13*, 245-255.

Cites two studies dealing with metacognitive aspects of memory and reading problems in children experiencing difficulty with reading comprehension. The first study involved poor comprehenders and matched normal readers in second and fifth grade in northeastern Italy. Eight second graders and 8 fifth graders, all poor comprehenders, were matched on oral reading, sociocultural level, and general school achievement with 10 second graders and 11 fifth graders who showed average or above average reading comprehension abilities. Children were presented with five plausible paragraphs and five implausible passages to read aloud and asked to rate the comprehensibility on a 3-point scale and then to recall content. The second study investigated good and poor comprehenders' ability to judge rating difficulty and learning progress in memory tasks. The studies did not find a relation between study time of unrecalled items and successive recall. The author concluded that poor comprehenders showed less adequate control processes during reading, but not while memorizing isolated lists of items.

WALKER, STEPHEN C., & POTEET, JAMES A. (1989, Winter). Influencing memory performance in learning disabled students through semantic processing. *Learning Disabilities Research, 5*, 25-32.

Tests whether significant differences exist between LD and NLD children on memory performance for words learned in an incidental learning activity. The subjects included 60 pupils (30 LD, 30 NLD) selected randomly from the pool of LD and NLD pupils identified in the fourth and fifth grades of public school classrooms. Ages of the LD subjects ranged from 9-5 to 11-1 with a mean CA of 11 years. The IQs, measured on an individually administered IQ test, ranged from 84 to 123; the mean IQ was 97. The age range for the NLD subjects was 9-5 to 11-6; the mean CA of the group was 10-4. The IQ of the NLD subjects was measured on the Test of Cognitive Skills and ranged from 86 to 130 with a mean of 116. Each subject was presented with 32 stimulus words, with congruent and noncongruent rhyming words, and semantically congruent and noncongruent sentence frames. A cued recall test of memory was presented to each subject following the incidental learning activity. The entire task was presented on a microcomputer which also kept records of subjects' responses. The data were examined separately and as an interaction of variables in a three way factorial ANOVA. After finding a significant interaction between the two treatment variables, post hoc analyses using the Tukey method were performed. Results indicated that NLD pupils recalled significantly more stimulus words than LD children. Both groups, however, performed significantly better on words encoded using deep level congruent semantic processing and cued with congruent semantic retrieval cues. At all levels, optimal performance occurred when retrieval cue type matched encoding level.

DAS, J.P., & MISHRA, RAMA K. (1991, Winter). Relation between memory span, naming time, speech rate, and reading competence. *Journal of Experimental Education, 59*, 129-139.

Examines the relation between memory span, naming time, speech rate, and reading competence. The subjects were 140 children from fifth and sixth grade classes of a city school system. On the basis of performance on the Woodcock-Johnson Word Attack and Letter-Word Identification tests, three ability groups were identified: 49 poor readers, 42 average readers, and 49 good readers. In addition to these reading tests, all subjects were tested individually using three subtests of the Das-Naglieri Cognitive Assessment System: successive word recall, a naming test, and a test of speech rate for words. The relation between reading and the other three tests was examined using multiple regression procedures and path analysis. Memory span was found to be a linear function of naming time and speech rate, and all three tests were performed better by good readers than by average readers, who in turn were better than poor readers. Reading was best predicted by naming time, followed by speech rate; prediction from memory span was weak. The path analysis revealed that the close connection between naming time and speech rate was represented by a latent variable, and this had the strongest link to decoding skill. This variable has two components: phonological activation on confronting a word and its articulation.

Bowers, Patricia Greig, & Swanson, Lynn Butson. (1991, April). Naming speed deficits in reading disability: Multiple measures of a singular process. *Journal of Experimental Child Psychology, 51*, 195-219.

Seeks to assess the speed deficit in disabled readers. To investigate this issue, poor and average readers (n=43) in grade 2 were assessed on several indices of speed of digit and letter naming using both continuous-list and discrete-trial methodologies. The measures administered assessed verbal ability (WISC-R), reading skills and ability (WRMT and the Canadian Tests of Basic Skills), phonological awareness (Auditory Analysis Test, the Odd Word Out task), continuous list naming speed for digits and letters, short term memory (Digit Span on the WISC-R), and the latency for naming digits and letters presented by computer under several conditions. There were clear effects of reader group on discrete-trial latencies, as well as an interaction between reader group and the speed with which to-be-named items were presented. A series of hierarchical regression analyses explored the amount of shared variance between various measures of digit naming speed and five indices of reading skill. Latency for word identification shared considerable variance with latency for digit naming and in general accounted for the shared variance of naming speed and several other measures of reading skill. Naming speed contributed variance in reading skill independently of measures of phonological awareness. Results confirmed that discrete presentations of digits and letters under varied conditions discriminated the poor and average readers involved in this study. It was suggested that a single speed of naming function underlined all conditions, including the continuous list. Poor readers' slow latencies for word identification were not specific to a reading task.

Ackerman, Peggy T.; Dykman, Roscoe A.; & Gardner, Michelle Y. (1990, May). Counting rate, naming rate, phonological sensitivity, and memory span: Major factors in dyslexia. *Journal of Learning Disabilities, 23*, 325-327, 329.

Examines the interrelatedness of counting rate, naming rate, phonological sensitivity, and memory span and their contribution to reading achievement. Subjects were 20 RD children, ages 9 to 12 years, enrolled in a summer tutoring program. Several reading achievement measures were administered to the subjects, including the WRAT-R; the GORT-R; the Decoding Skills Test, Parts 1 and 2; and the Boder Test. Measures of hypothesized underlying processes administered included: (1) rate of counting from 1 to 10, five times in succession; (2) rate of naming 50 alternating digits and letters arranged in 10 rows of five stimuli; (3) the Bradley Test of Phonological Sensitivity for rhyme and alliteration; and (4) an auditory digit span test. The various reading measures were found to be highly intercorrelated, with the exception of the GORT-R comprehension test which showed only modest coefficients. Stepwise regression analyses indicated the WRAT-R reading and spelling scores were best predicted by age, counting rate, and naming rate. Because phonological sensitivity was strongly related to counting rate, it added no additional variance in prediction of WRAT-R scores. Likewise, because digit span forward was strongly related to naming rate, it added no additional variance in explaining word decoding and spelling.

IV-15 Sociocultural factors and reading

Guthrie, John T.; Schafer, William D.; & Hutchinson, Susan R. (1991). Relations of document literacy and prose literacy to occupational and societal characteristics of young black and white adults. *Reading Research Quarterly, 26*, 30-48.

Examines the relations among background, literacy, societal, and occupational characteristics of young adults and whether the relations are similar for blacks and whites. Background characteristics included are parental occupation, parental education, and years of schooling. Data from the 1986 NAEP were analyzed for 3,007 blacks and whites aged 21-25 years. Literacy achievement data were taken from performance on the NAEP cognitive tests; all other information was taken from the guided interview. Path models were formulated for document literacy and for prose literacy. Occupational status and participation in society were significantly associated with document literacy activity. Document literacy achievement was more highly associated with document literacy activity for blacks than for whites. Occupational status and participation in society also were significantly related to prose literacy activity, although ethnic differences were not as strong as for document literacy.

ALEXANDER, KARL L., & ENTWISLE, DORIS R. (1988). Achievement in the first 2 years of school: Patterns and processes. *Monographs of the Society for Research in Child Development, 53*, 1-157.

Reports on longitudinal data of first and second graders and factors that facilitate or hinder transition into school. Elementary school children were followed from kindergarten through first (n=741) and second (n=625) grades from 20 Baltimore city schools. Data were collected from two parent interviews, five teacher interviews, four pupil interviews, and school records (report card marks and CAT scores) for two years. The variables focused on social structures (SES, gender, minority/majority status) and social-psychological (significant others, self-reactions) aspects of schooling. Transition into school appeared more problematic for black children than for white children. The two groups had similar CAT scores as they began the first year but score differences were found in favor of the majority at the end of first grade – a gap that widened over the second year. The first year of schooling is a period of considerable consequence for shaping subsequent achievement goals. Implications for pupil development and for what they reveal about social structures and the early schooling process are discussed.

STEVENSON, HAROLD W.; CHEN, CHUANSHENG; & UTTAL, DAVID H. (1990, April). Beliefs and achievement: A study of black, white, and Hispanic children. *Child Development, 61*, 508-523.

Investigates school achievement among black, white, and Hispanic elementary school children and studies the beliefs about academic achievement of the children and their mothers. A total of approximately 3,000 first, third, and fifth graders, enrolled in 20 schools in the Chicago metropolitan area, were given group achievement tests in mathematics and reading. In addition, a subsample of 471 first and fifth graders were given two individually administered mathematics tests and a test of reading vocabulary. Black and Hispanic children performed at a significantly lower level than white children, but at fifth grade ethnic differences in mathematics scores were no longer significant when mothers' education was statistically controlled. This was not the case in reading, where differences were found after controlling for the effects of mothers' education. Interviews with subsamples of 968 mothers and children revealed greater emphasis on and concern about education among minority families than among white families. Black and Hispanic children and mothers evaluated the children and their academic abilities highly; they were positive about education and held high expectations about the children's future prospects for education. Mothers of minority children and teachers in minority schools believed more strongly than white mothers and teachers in the value of homework, competency testing, and a longer school day as means of improving children's education.

LEVINE, DANIEL U., & EUBANKS, EUGENE E. (1990, Spring). Achievement disparities between minority and nonminority students in suburban schools. *Journal of Negro Education, 59*, 186-194.

Uses data from the National Assessment of Educational Progress to examine and compare the performances of 13-year-old minority and nonminority students in high metropolitan or advantaged-urban communities and to offer explanations for achievement disparities between minority and nonminority students. Possible steps for addressing the disparities are included.

SIEGEL, DONNA FARRELL. (1990, July/August). The literacy press: A process model for reading development. *Journal of Educational Research, 83*, 336-347.

Examines factors related to reading achievement in the areas of home, school, and extracurricular activities, from preschool through high school, and determines the importance of each. A national sample of 2,177 high school seniors completed the Reading Biographer, a self-report instrument, and were categorized by three levels of student involvement (high, moderate, low) in each of nine variables. Mean reading scores were computed for each variable. ANOVA identified variables that made a significant difference in the mean reading scores. A posteriori test results indicated that for the entire sample and for subgroups defined by social class and gender, the level of the students' involvement in all nine variables was related to their current reading ability. The most surprising finding was, as shown by a regression analysis of the variables, that early childhood experiences were important predictors of adult reading status.

MELEKIAN, BADRIG A. (1990, June/July). Family characteristics of children with dyslexia. *Journal of Learning Disabilities, 23*, 386-391.

Examines the relation between dyslexia and family characteristics. Subjects were 249 children who attended a dyslexia center between 1970 and 1986. The children, who ranged in age from 8 to 16 years, had all attained WISC IQs of at least 90 on either the verbal or performance scales, and had a reading deficiency of at least two years as observed on the L'Alouette and Jeannot et Georges reading tests. Data pertaining to family characteristics were obtained from the history in each child's record. Percentages with regard to the sample were computed for (1) parental characteristics (including professional status of household head, mother's working and occupational status, and parental age at child's birth) and (2) sibling characteristics (including number and birth order). Statistical comparisons of mean percentages for the sample with 1975 percentages for the general population indicated the existence of a relation between dyslexia, low occupational and educational level of parents, and the predominance of later-born children in large families. Parental age at birth and parental marital status were not found to be significant risk characteristics. Mother's low socioeconomic and educational status, a previously ignored characteristic, showed signs of aggravating dyslexia.

VIOLATO, CLAUDIO, & ODHIAMBO, KAREN T. (1990). The social ecology of literacy and achievement in primary schools in Kenya. *Canadian and International Education, 19*, 50-60.

Studies the social ecology of the geographical distribution of literacy and academic achievement of primary schools in Kenya by analyzing results of the 1987 Kenya Certificate of Primary Education (KPCE), an annual national examination. Scores (n=5270) from a stratified random sampling of 98 primary schools in urban and rural districts across provinces were examined. Use of MANOVA techniques revealed regional differences in performance on the KPCE between the urban and rural areas and between the provinces. Univariate ANOVA yielded significant differences for literacy as measured by English and Kiswahili subtests, as well as for achievement subtests in science, social science, and the arts, favoring the urban schools. No differences emerged on any comparison for mathematics. Further univariate ANOVA with province as the independent measure showed regional disparities in subtest scores; Tukey's HSD multiple range tests indicated that rank-order performance varied with the subtest examined. The results are discussed and interpreted in the context of the social ecology of achievement and abilities in developing countries.

IV-16 Reading interests

FISHER, PETER J.L., & AYRES, GEORGE. (1990, Summer). A comparison of the reading interests of children in England and the United States. *Reading Improvement, 27,* 111-115.

Investigates similarities and differences in the reading interests of English and American elementary school age children. Sampled were 111 American and 104 English children, all between 8 and 11 years old. Children filled out a reading preference survey employing 44 fictitious titles, each accompanied by a description of the book; 11 broad interest categories were represented. Pupils checked their preferences for each book on a 4-point Likert scale. ANOVAS resulted in significant main effects for sex and country. Boys showed a preference for science and sports more than did girls; girls showed stronger preferences than boys for biographies, crafts, jokes, fairy tales, animals, and poetry. American children showed greater preference for biography, poetry, and science than English children. Humor, mystery, and adventure were high for both groups.

JOSE, PAUL E., & BREWER, WILLIAM F. (1990, December). Early grade school children's liking of script and suspense story structures. *Journal of Reading Behavior, 22,* 355-372.

Explores the utility of a theory of story appreciation for explaining young children's preferences for three different story structures. Specifically, the researcher attempted to learn whether young children prefer stories that are structured to elicit an emotional response of suspense over more mundane narratives, and, if so, to determine when this preference becomes evident. Suspense stories, scripts (narratives that described a mundane event sequence), and scripts with added excitement (but with nonintegrated exciting events) were read to 27 children at each of three ages: kindergarten, first, and second grade. Children indicated their liking of the stories in three ways: (1) a 7-point rating scale, (2) a ranking of the three types from most liked to least liked, and (3) by choosing one of the three as the story they would most prefer to hear read to them at a later date. The prediction was confirmed that suspense stories would be best liked. For the rating scale measure, only second graders reliably liked suspense stories more than plain scripts. For the ranking measure, both first and second graders reliably liked suspense stories best. Finally, for the preference measure, all three age groups reliably liked the suspense stories best. It is suggested that these results support the structural-affect theory's contention that young children's story schemas begin to include the dimension of suspense in story narratives.

SOSNIAK, LAUREN A. (1990, Fall/Winter). If children chose textbooks. *Journal of Research in Childhood Education, 5,* 47-59.

Explores pupils' expressed points of view regarding basal readers as they participated in the process of textbook selection. Pupils were from one suburban and two urban schools where teachers were selecting a new basal program. At each of the three schools, one group of eight fourth graders and one group of eight sixth graders, representing the academic and behavioral range of pupils served at these grade levels, were identified for participation by classroom teachers. Each of the six groups met for approximately one hour a week over five weeks with a researcher who led discussions of the strengths and weaknesses of three alternative basals. The pupils reviewed only materials for their grade level, and copies of the books were available to the pupils for study at home. Sessions were tape recorded, transcripts were prepared, and data were analyzed qualitatively to discern both the shared and unique concerns of the pupils. Results indicated that children as a group do not share a comprehensive point of view about basal readers. Within both school and grade level contexts, the pupils expressed diverse interests and attitudes which suggested that one textbook series could not claim a strong advantage over all others if judged on the basis of pupil appeal. Pupils were in agreement in indicating interest in material that encourages active involvement (both physically and cognitively) and in expressing concern for success in school.

Hidi, Suzanne. (1990, Winter). Interest and its contribution as a mental resource for learning. *Review of Educational Research, 69*, 549-571.

Reviews the research on the role of individual and text-based (situational) interest in cognition. Text-based interest is described as the result of the interaction of textual features and individuals reading the text. Interesting stories are found to motivate people to read as well as having a positive influence on comprehension and learning. Two types of factors contribute to text-based interest: formal structural characteristics such as novelty and surprise, and content bound factors such as interesting concepts and life themes. The review includes a discussion on how this interest develops and how it can be used in education. One conclusion drawn from the review is that interest is central to determining how we select and persist in processing certain types of information in preference to others. Processing of interest-motivated text appears to contain unique elements that are not present in processing information that lacks such interest.

Mellon, Constance A. (1990, Summer). Leisure reading choices of rural teens. *School Library Media Quarterly, 18*, 223-228.

Surveys the leisure reading choices of rural teenagers. Subjects were more than 700 seventh through twelfth graders attending public schools in North Carolina. Surveying of subjects' reading interests was done over a three-year period. Compilation of survey data revealed that more than 70% of the teenagers read during leisure time. The most often stated reasons for leisure reading were for entertainment and for acquiring information. Magazines and newspapers were found to be the most preferred reading materials of teenagers.

Brusch, Wilfried. (1991, April). The role of reading in foreign language acquisition: Designing an experimental project. *ELT Journal, 45*, 156-163.

Describes a two-year study in progress which seeks to determine the effects of reading on secondary students' foreign language learning. Pupils' reading preferences also are a focus of the study. Finally, an assessment of leisure time and interests administered to the subjects at the beginning of the project is presented. Subjects at the initiation of the study were 760 seventh and eighth grade pupils from 10 grammar schools and 5 comprehensive schools in Hamburg, Germany. The experimental group and the control group were given general language achievement tests at the beginning of the project and are to be tested in English skills at the completion of the project. Concurrently, a record is being kept of books borrowed and how often they are borrowed from classroom libraries. Percentages compiled with regard to the leisure time and reading interests of the pupils at the beginning of the project indicated reading is more popular than might be expected. The fact that school libraries are not used heavily by the pupils is attributed to their poor organization and holdings of reading materials that are not in line with their interests and needs.

IV-17 Attitudes and affect toward reading

McKinlay, Susan. (1990, November). Children's attitudes to reading: Do teachers know? *Reading, 24*, 166-178.

Attempts to determine whether teachers are aware of children's attitudes toward reading. Twelve primary-aged children between the ages of 7 and 10 with learning difficulties rated their attitudes toward reading using a modified form of the Attitudes of Reading Scale 1. Items on the scale related to 12 school reading activities. Children indicated their attitudes on a 3-point Likert scale, judging each activity both on a range of useful to not useful and on a range of like to dislike. Their teachers rated these children's attitudes on the same scale. Teachers then devised an observation schedule to monitor and assess the children's attitudes toward the 12 activities in the classroom. Results of the ratings comparison showed that both teachers and pupils rated attitudes as positive. In 16 of 24 comparisons, children rated their attitudes more highly than did their teachers, and young children rated their attitudes higher than did the older children. In only two cases did children rate their attitudes as less positive than their teachers' judgment. Observations tended to increase teachers' awareness of children's positive attitudes toward reading, making their judgments closer to the children's own ratings. In addition, observation reduced the number of "not sure" responses (from 35% to 20%) in teachers' rating of children's attitudes.

DUTTON, BONNIE, & DYER, PENELOPE A. (1991, Winter). Story reading and telling: A way to increase positive attitudes and self-esteem in reading. *California Reader, 24*, 14-17.

Reports the development and implementation of a literature-based reading and language program in a rural, central California school district. Reading behaviors of teachers and pupils after story reading and story telling for 20 minutes per day for 20 weeks were examined, with a focus on the number of books read by teachers to students, the number of books read by parents to children, the number of stories told to students by teachers, the type and variety of activities used to develop a deeper understanding of the literature, changes in children's attitudes toward reading and writing, teacher attitudes toward story reading and story telling, and reading comprehension and language gains on the CTBS. Teachers read an average of 57 books and told an average of 42 stories during the 20 weeks. Librarians reported that children checked out more books than in previous years. Parents read an average of 13 books to their kindergarten children. Classroom activities reflected an integrated reading/language arts program using literature as a base. On the San Diego Reading Attitude Survey pupils in the program exhibited more positive attitudes than did children in comparison schools. Teacher attitudes were favorable to the program. Test scores in reading and language improved for pupils in grade 1, but not for children in other grades.

PIKE, ANN, & NASH, MARCIA F. (1990, Spring/Summer). Repeated readings of big books: How children respond. *New England Reading Association Journal, 26*, 2-8.

Analyzes responses to two books read repeatedly to 18 kindergarten children. Five whole-class sessions were spent on each book over a period of two-and-one-half weeks. Sessions lasted from 15 to 30 minutes. Responses were grouped into four categories: responses to illustrations, responses to story lines, responses to language, and personal responses. Results of the analysis of the tapes of children's verbalizations during the repeated readings indicated the following: (1) children talked more as the story became more familiar, (2) responses decreased in the fourth and fifth readings, (3) responses focused on different aspects of the story as it was read again, and (4) responses indicated a greater depth of understanding with repeated reading.

KNIGHT, JANIE S., & HAWES, KATHRYN. (1990, Summer). Student attitude toward selected instructional strategies. *WSRA Journal, 34*, 43-48.

Measures pupils' attitudes toward specific reading instructional strategies through the administration of a researcher-designed attitude inventory. The subjects were 28 second grade pupils. The instrument consisted of 27 open-ended statements representing instructional strategies used by teachers in reading classes. A Likert-type rating scale composed of happy faces was used for responses. This scale was converted to numbers ranging from five (highest interest) to one (lowest interest) for analysis. The teacher's ranking of pupils on general reading interest on a 10-point scale and the pupils' reading scores on the CAT also were secured. Coefficients of correlation between the inventory and teacher rankings of pupils on general reading interest, between the inventory and the CAT score, and between the teacher ranking and the reading score were all significant at the .05 level. The highest ranked activities were reading a story, practicing reading at the computer, acting out a story read, coloring a reading activity sheet, and listening to a tape recorder. The lowest ranked activities were practicing with word cards, meeting in a reading circle, marking a page in the workbook, reading silently at the desk, and taking a reading test.

HERROLD, WILLIAM G., JR.; STANCHFIELD, JO; & SERABIAN, ARTHUR, J. (1989). Comparison of the effect of a middle school, literature-based listening program on male and female attitudes toward reading. *Educational Research Quarterly, 13*(4), 43-46.

Reports data from the responses of 1,712 students from five regions of the United States and the Department of Defense schools in West Germany. Subjects were administered a 20-item Reaction Toward Reading Attitude Scale prior to and at the conclusion of a six-month program where teachers read aloud from a preselected list of adolescent classics to their students 10 to 15 minutes a day for four to five days a week and followed up with student-teacher discussion activities. Significant differences from pretest to posttest were found for the total study sample ($p < .0001$), for boys ($p < .001$), and for girls ($p < .05$). Analyses of scale items indicated differential responses by boys and girls.

GHADESSY, MOHSEN. (1988, December). A study of four attitudes and reading comprehension of primary six students in Singapore. *RELC Journal, 19*, 51-70.

Investigates the correlation coefficients among five variables for two groups of Chinese and Malay 12-year-old pupils in Singapore. Variables studied were attitudes toward teachers, learning, language arts, mathematics, reading, and comprehension. Subjects, 645 pupils, were given the Arlin-Hills Attitude Surveys for Elementary Schools. Each test had 15 statements to which subjects show their degree of agreement or disagreement. Statements were slightly rephrased to be appropriate for Singapore students. Three reading passages from SRA graded readers were used to test comprehension. Most students did not have a positive or a negative attitude toward the tested topics, although both groups of pupils had more positive attitudes toward teachers than toward learning. Coefficients among the five variables were positive, although some were low. Correlation coefficients were lower than those obtained from a study using the instrument in the United States. Differences were found between the two ethnic groups, with Malays having a more positive attitude toward learning processes and language arts and Chinese having a more positive attitude toward mathematics. Chinese pupils were more proficient in reading. Differences between the groups was not due to the clustering or bunching up of Malay pupils in particular schools.

GUTKNECHT, BRUCE. (1991, Spring). Mitigating the effects of negative stereotyping of aging and the elderly in primary grade reading instruction. *Reading Improvement, 28*, 44-51.

Assesses the effect of reading materials containing positive depictions of aging and the elderly on the attitudes of primary grade pupils. The sample included 91 primary children (grades 1-3) from a public school. A control group of 25 subjects who were unable to participate in the intervention activity due to absences from school or participation in other school activities was selected from the original pool. The intervention period was six weeks during which stories from selected aging/elderly positive materials were read to the pupils by the teachers or read by the pupils themselves. Four treatment groups were established and varied in the number of stories they were read during the intervention: 1-4, 5-8, 9-12, and 12+. One inventory designed for this study was the pre- and posttreatment measure of pupils' attitudes toward aging and the elderly. ANCOVA procedures were applied to determine the effect of the story intervention on children's attitudes. Significant, positive gains in mean attitude scores were observed for pupils in each treatment group. The control group had a lower posttest mean than their pretest mean. Although there was a positive gain in all groups receiving the intervention, exposure to a higher number of stories did not increase the positive attitudes of pupils more than exposure to fewer stories.

SARACHO, OLIVIA N., & DAYTON, C. MITCHELL. (1991, February). Age-related changes in reading attitudes of young children: A cross-cultural study. *Journal of Research in Reading, 14*, 33-45.

Investigates young children's attitudes toward reading and examines developmental patterns. A total of 2,201 children, ages 3 to 5 years, was randomly selected from volunteers in early childhood centers in five states. Subjects included Mexican Americans, Anglo Americans, and black Americans, all of whom were orally administered the 34-item Preschool Reading Attitudes Scale (PRAS). The PRAS gives four subscores: School Reading Activities, Nonschool Reading Activities, Library Reading Activities, and General Reading Activities. Overall there was an increase in positive attitudes as a function of age. Ethnicity comparisons were nonsignificant for the library subscore, but black children were consistently and significantly below the other two groups on the other subscores.

O'MASTA, GAIL A., & WOLF, JAMES M. (1991, May). Encouraging independent reading through the Reading Millionaires project. *Reading Teacher, 44*, 656-662.

Details the benefits resulting from one school's program for encouraging at-home, independent reading by elementary pupils. All children (228) in one elementary school were encouraged to participate in this project by reading at home, maintaining a record of minutes read, and having parents verify the record. The project was based on a banking analogy using appropriate banking terminology, and the overall school goal was to accumulate a balance of one million minutes of reading with deposits of time banked by all pupils. This goal was achieved by the end of the school year. Effects on pupils were examined by reviewing the time data, surveying parents regarding at-home reading behaviors and attitudes of their children, and securing teachers' reactions. The average primary pupil (kindergarten to third grade) exceeded four minutes of at-home reading time a day, the amount of time for independent reading reported by the U.S. Department of Education for average children in fifth and sixth grades. The fourth and fifth grade students read independently an average of 19 minutes a day. The average sixth grader read on the average 12 times more than the average sixth grader described in the reference source. In responding to a questionnaire used to secure evaluative reactions from parents, 90% confirmed that they had observed an increase in their children's independent reading; 94% of the parents reported that their children enjoyed reading as a result of the project. Several parents described spending more time listening and reading to their children and enjoying positive interactions. All teachers noted an increase in the amount of reading children completed at home and indicated that the program assisted them in promoting reading in the classroom.

GILBERT, STEVEN W. (1989, April). An evaluation of the use of analogy, simile, and metaphor in science texts. *Journal of Research in Science Teaching, 26*, 315-327.

Explores the effects of analogy, simile, and metaphor on students' learning from and attitude toward science texts. Subjects were 201 ninth and tenth grade general biology students enrolled in four high schools. Two instructional units were developed: one dealing with embryo and seed development, and the other with Mendelian genetics. Texts for each unit were presented to subjects in either an analogy version, in which text and questions included analogies, similes and metaphors; or a literal version, in which no devices were used. Pretests and posttests administered to subjects to determine impact of treatment on attitudes and achievement were submitted to ANOVA procedures. Findings revealed no real difference in achievement between groups being compared. Some indication was noted that the analogy version might have a negative effect on students' attitudes.

SMITH, M. CECIL. (1990, Fall). Reading habits and attitudes of adults at different levels of education and occupation. *Reading Research and Instruction, 30*, 50-58.

Describes whether differences in reading attitudes and habits occur when examining groups with varying levels of educational achievement and/or occupational status. The sample consisted of 84 adults, ages 35 to 44, who participated in earlier longitudinal studies as children. Questionnaire packets exploring reading habits, attitudes toward, and perceptions of reading were administered to all subjects. The college and professional group was found to have more positive attitudes toward reading than others. The majority of individuals reported reading one to three hours daily, although increases in daily exposure to print were related to more education and higher status jobs. No differences were found among groups regarding reading purposes. In rating what skills were important for good reading, college graduates indicated that comprehension and inferential skills were important, while the high school diploma group reported using the dictionary, vocabulary development, and visual ability as the important skills needed.

IV-18 Personality, self-concept, and reading

DAVEY, BETH, & MENKE, DEBORAH. (1991, January/March). Individual differences affecting the acquisition of reading skill: A cognitive style perspective. *Reading Psychology, 12*, 27-41.

Reviews research on cognitive style, particularly as it relates to the beginning reading process. The authors conclude that field independent children are often more successful during the initial stages of reading skill acquisition, but that the impact of this effect lessens as pupils progress to stages of more fluent, automatized reading behaviors. It is urged that longitudinal research be conducted in order to better understand and portray how such cognitive characteristics as field dependence interact with reading development differently at various points in time. In addition, other aspects of needed research in this area are noted.

DAVEY, BETH. (1990, July). Field dependence-independence and reading comprehension questions: Task and reader interactions. *Contemporary Educational Psychology, 15*, 241-250.

Questions whether field dependent and field independent pupils with comparable levels of reading skill differ on question tasks involving substantial memory demands and requiring restructuring skill. Subjects were 55 field independent and 56 field dependent sixth to eighth grade pupils, scoring between 5.0 and 7.9 on the SAT Reading Comprehension subtest. Field independence/dependence was determined by the Group Embedded Figures Test. Four response tasks were generated for each of eight WH questions for 12 informational passages. Two involved multiple-choice administered under a text reread and a no-reread condition. Two used the same question stems but presented them in a free-response format with similar reread and on-reread condition. Two used the same question stems but presented them in a free-response format with similar reread and no-reread conditions. Passages and tasks were grouped into triads, with subjects reading each passage triad under a different task condition. All main effect analyses were statistically significant except for cognitive style. Scores on multiple-choice items exceeded those on free response, and text rereading resulted in higher scores than no rereading. Differences between multiple-choice and free response were greater for field dependent than for field independent subjects and for no backtracking than for backtracking. Significant differences were found between field dependent and field independent groups on free-response questions. Scores of field dependent readers dropped when they were not allowed to look back to text.

MENG, KAREN, & PATTY, DEL. (1991, January/February). Field dependence and contextual organizers. *Journal of Educational Research, 84*, 183-189.

Evaluates the effectiveness of contextual organizers differing in type and placement for learners of three cognitive styles. Participants in the study were 276 normal achieving sixth grade pupils in a midwestern city. Based on scores attained on the Group Embedded Figures Test, subjects were categorized as field dependent, field independent, or field intermediate. Each of the three cognitive style groups was randomly divided into one of five treatment groups which included written advance organizer, written postorganizer, illustrative advance organizer, illustrative postorganizer, and a nontreatment control condition. Treatments were administered with the assistance of computers (CAI) employing social studies content text. Following CAI, multiple-choice questions assessed immediate and delayed retention of social studies content as well as memory of the contextual organizer itself. ANOVA procedures and Duncan multiple range tests revealed illustrative organizers were more effective for field dependent subjects where delayed retention was concerned. Illustrative postorganizers were more effective for field intermediate subjects. Contextual organizers neither helped nor hindered learning of field independent subjects.

KERSHNER, JOHN R. (1990, June/July). Self-concept and IQ as predictors of remedial success in children with learning disabilities. *Journal of Learning Disabilities, 23*, 368-374.

Tests whether self-concept and IQ in LD students are valid predictors of academic improvements over 2 years. Sampled were 19 boys and 6 girls classified as LD and attending a private school during the 2-year study. Children were mainstreamed for their content instruction and received weekly group tutoring. Remedial instruction focused on language and arithmetic skills. The WISC-R and the Coopersmith Self-Esteem Inventory were used as the predictive measures. Academic achievement was assessed using the WRAT and TOWL. All measures were administered in September and again 21 months later. It was found that IQ had no effect on ability to profit from remedial instruction, whereas self-concept predicted patterns of successful achievement in spelling, arithmetic, and written language but not word recognition. Conclusions illustrate the importance of self-concept as a primary cause of academic underachievement.

NEWMAN, RICHARD S., & STEVENSON, HAROLD W. (1990, Spring). Children's achievement and causal attribution in mathematics and reading. *Journal of Experimental Education, 58*, 192-212.

Investigates both the consistency of tenth graders' causal attributions about success and failure in mathematics and reading as well as the predictive relation between these causal attributions and academic achievement and sex. Students' attributional ratings were collected from a questionnaire consisting of 7-point rating scales (ranging from very important to not at all important) related to attitude and beliefs about academic achievement. As part of the questionnaire, attributes for two outcomes (success and failure on a test) in the two subject areas were measured in four separate blocks of scales. In each block, attributions referred to ability, help from teacher, interest, effort, test difficulty, mood, and specific skills being tested. Attributional ratings were factor analyzed for success and failure in math and reading at grade 10, and resulting indices were regressed on sex and the students' achievement scores from grades 2, 5, and 10. Findings indicate that certain attributions (e.g., mood, test difficulty, and mastery of specific skills) are generalized across subject area and outcome, whereas others (e.g., ability and interest) are specific to subject area and outcome. In addition, the higher children's concurrent achievement in math and reading, the greater the likelihood of attributing success to stable causes (ability) and failure to unstable causes (mood). Finally, the lower children's concurrent achievement in reading, the greater the likelihood of attributing reading success (or failure) to help (or lack thereof) from the teacher.

MILLER, SAMUEL D., & YOCHUM, NINA. (1990/1991). Students' perceptions of their reading difficulties: A question of accuracy. *Journal of Clinical Reading, 3*, 12-16.

Compares pupils' perceptions of their reading difficulties to performance scores on an IRI and the Spache DRS. Sampled were 30 children in grades 1 through 8 who participated in two university reading clinics. Discrepancy scores in achievement were noted for all. Perceptions of reading were assessed through interviews with children, parents, and teachers. Eighty-seven percent of children indicated an awareness of a reading difficulty. Word recognition was indicated as the most prominent problem by pupils (73%). Children believed that in order to be better readers they needed to practice reading, although they did not report actively doing so. Perceptions were confirmed by testing measures suggesting that pupil perception may serve a vital role in the diagnosis of difficulties.

IV-19 Readability and legibility

TYMCHUK, ALEXANDER J. (1990, September/October). Readability levels of over-the-counter medications commonly used by elderly people: A possible issue in compliance. *Educational Gerontology, 16*, 491-496.

Assesses the readability levels of over-the-counter (OTC) medications commonly used by the elderly. Two each of OTC antacids, analgesics, and cough preparations were included. The primary information panels were analyzed using the Flesch readability formula. In addition, three supplemental indexes were developed and applied. Each of these indexes included sources of uncommon words and terms related to medications: the Medical Readability Index, the Technological Readability Index, and the Scientific Readability Index. The readability assessments were conducted separately by two college seniors who demonstrated high reliability (100% agreement). Results showed that readability levels ranged from the sixth grade to college levels of reading. In addition, the supplemental indexes revealed that complex medical, technological, and scientific words appeared frequently in the information panels of each medication considered.

MCGAW, S., & STURMEY, P. (1989). The effects of text readability and summary exercises on parental knowledge of behaviour therapy: The Portage parent readings. *Educational Psychology, 9*(2), 127-132.

Investigates the effects of text readability and text summaries on parental knowledge of behavior therapy. Subjects were five home visitors and 51 parents of children with established biological handicaps. Subjects, whose mean age was 31 years, had received very little training in behavioral training. Over a four-week period, parents were asked to read four chapters of a text having to do with reinforcement, modeling, shaping, and response costs. The chapters were assigned to parents in four conditions: low and high readability (revised according to the Flesch formula) with summary exercises, and low and high readability without summary exercises. At the end of four weeks, parents were administered Form A of the Knowledge of Behavior Principles Questionnaire. ANOVA procedures applied to the data resulted in a significant increase in knowledge of behavior therapy for parents in high readability groups. Summaries had no impact on parental knowledge. However, parental SES and parental knowledge were found to be moderately correlated.

TRAVIS, DAVID S.; BOWLES, SUSAN; SETON, JOHN; & PEPPE, ROGER. (1990, April). Reading from color displays: A psychophysical model. *Human Factors, 32*, 147-156.

Examines the impact of two types of contrasts—chromatic and luminance—in color text legibility in multicolor displays. Subjects were 33 adults randomly chosen from the British Telecom subject panel. Additionally, all had passed the Ishihara test for color blindness. Subjects were shown words and nonwords on a color monitor with three cardinal axes. Two of the axes were chromatic and the third was achromatic. Detection and discrimination of words and nonwords were measured. Results of psychometric analyses indicated the possibility of near perfect reading at equiluminance. Luminance differences are more apparent than purely chromatic differences, but differences were insignificant when discrimination data were optimized for detection threshold.

KENNEDY, ALAN, & MURRAY, WAYNE S. (1991, February). The effects of flicker on eye movement control. *Quarterly Journal of Experimental Psychology, 43A*, 79-99.

Examines the effects of various levels of illumination on several eye movement measures. Participants were 30 female typists employed at the university and 30 undergraduate student volunteers. In a prior questionnaire, the typists had all reported a high level of symptoms of visual discomfort, headache, and fatigue when working on word processors. Subjects viewed sentences on a screen under three conditions of illumination: 50-Hz flicker, 100-Hz flicker, and steady illumination. A single stimulus word appeared to the right of the sentence, and subjects were to decide whether the word was present in the sentence. Eye movements were taken as subjects completed the task. Typists made more right-to-left saccades, shorter saccades, and more corrective eye movements than did students. The two groups appeared to employ different reading styles. Significant decrements in performance were apparent at both flicker rates for both groups.

IV-20 Literacy acquisition

FITZGERALD, JILL; SPIEGEL, DIXIE LEE; & CUNNINGHAM, JAMES W. (1991, June). The relationship between parental literacy levels and perceptions of emergent literacy. *Journal of Reading Behavior, 23*, 191-213.

Interviews parents to determine perceptions of their children's literacy development and to note the relation between parental literacy level and perceptions of the importance of literacy artifacts and experiences in children's literacy development. Interviews were conducted with 108 parents of beginning kindergarteners. Based on scores obtained on the WRAT, parents were designated as having either low or high literacy levels. The parent interviews consisted of two open-ended questions, 37 Likert-type items, and demographic information. In general, parents felt that literacy events and artifacts during the preschool years were important. Books, paper, and pencils were viewed as important materials to have in the home. Parents with lower literacy levels perceived literacy artifacts and events to be even more important than did higher literacy level parents. The two groups held different ideas as to what was important for early literacy development.

HANCOCK, MARJORIE R. (1990). Emergent reading research: Synthesis and analysis. In Suzanne F. Clewell (Ed.), *Literacy: Issues and practices* (pp. 7-19). Bethesda, MD: State of Maryland IRA Council.

Presents and analyzes critically the methodology and findings of research on emergent reading. The literature is reviewed under three broad headings: early reader studies, environmental print studies, and home environment (parents and children reading together).

The last of these three areas is further subdivided into four subtopics: reading-like behavior, cultural differences, interactive storybook reading, and reading to children and beginning reading success. A brief section deals with the practical implications of emergent reading research.

VAN KLEECK, ANNE. (1990, March). Emergent literacy: Learning about print before learning to read. *Topics in Language Disorders, 10,* 25-45.

Reviews some of the literature on emergent literacy. Three kinds of studies are drawn on to describe literacy artifacts and events to which preschool children are exposed and to consider the specific nature of adult guidance within literacy events and the role such guidance plays in later reading development. The three include ethnographic research, descriptive studies, and studies attempting to determine specific aspects of preschool literacy experiences that best predict later reading achievement. Research related to the areas of knowledge about print developed by preliterate children is categorized and reviewed under the topics of form, content, and use. A brief section on assessment is presented. Four general approaches for promoting the development of print literacy are cited as growing out of the research findings. Additionally, the author gives four general conclusions growing out of the research regarding the role of the preschool years in literacy development.

GOODMAN, VERA. (1990, Summer/Fall). Explorations in literacy: Book sharing with two-year-olds. *Reflections on Canadian Literacy, 8,* 106-111.

Examines book-sharing episodes between mothers and their two-year-olds in an attempt to uncover how the behaviors exhibited during these events affect the acquisition of literacy and the nature of the qualities essential to literacy. The researcher studied the influence that the mother's routines, background of experience, concepts of literacy, and hopes and expectations had on each child's emergent literacy behaviors. Over a period of five months, the researcher visited the homes of the subjects, videotaping the mother and child as they shared picture books and collecting field notes and interviews for use in data analyses. The observational data were analyzed employing a framework for conceptualizing parent-child interactions, i.e., semantic contingency, scaffolding, accountability, and routines. Findings suggested that behaviors seemingly unrelated to the reading event itself contributed significantly to literacy development. Daily routines engaged in by the mothers, which reflected the amount of time spent in one-to-one interaction, emerged as critical. The behaviors that supported literacy development were not complex, but depended for their effectiveness on enthusiasm and imagination, and on the ability to engage in quality dialogue that enabled the caregiver to interpret and extend the text.

MANY, JOYCE E. (1989, Summer). Interactions about text and pictures: What can we learn from shared reading? *Reading Research and Instruction, 11,* 48-59.

Studies the interaction patterns and the content of exchanges between an adult and two children during shared reading of a story with pictures. Subjects were a mother, her five-year-old son, and her three-year-old daughter. Dialogue related to text and pictures was audiotaped, transcribed, and submitted to both qualitative and quantitative analyses. Results indicated that the parent's approach to pictures was nondirective, while her approach to text was directive. The parent used more verbal units per exchange and initiated most of the exchanges related to text. Most of the children's utterances were information giving rather than information asking. Implications for instruction are discussed.

PELLEGRINI, A.D.; GALDA, LEE; DRESDEN, JANNA; & COX, SUSAN. (1991, May). A longitudinal study of the predictive relations among symbolic play, linguistic verbs, and early literacy. *Research in the Teaching of English, 25,* 219-235.

Examines the predictive relations among dimensions of symbolic play (i.e., object and ideational transformations), linguistic verbs, and measures of early literacy. The sample included 12 preschool children (mean age of 42.75 months) who attended a university laboratory preschool. They were observed by the researchers for two years during free play and in a variety of literacy events. They were also audiotaped during free play. The children's symbolic play transformations and linguistic verb usage were derived from the free play observation notes and the audiorecordings. Receptive vocabulary was assessed with the PPVT; knowledge of the lexicon of books was assessed using the Concepts about Print test. Literate behavior, the language and actions children used when they encountered print in either reading or writing contexts, was also assessed during the spring terms of the two-year study. Assessments were completed by asking children to tell, dictate, and write about two different series of pictures. They also read two different books to an experimenter after the experimenter had read the books to them. The results of correlational analyses revealed that the use of linguistic verbs predicted Concepts of Print scores. In addition, symbolic play and linguistic verbs predicted emergent writing and reading respectively.

THOMAS, KAREN F., & RINEHART, STEVEN D. (1990, Fall/Winter). Young children's oral language, reading and writing. *Journal of Research in Childhood Education, 5*, 5-26.

Explores whether the use of oral language used by preschoolers is related to other literacy behaviors. Four 4-year-old children were selected from 40 children entering a Head Start program. The 4 children represented differing points in the developmental acquisition of seven language functions. Data collected included: (1) video recordings of classroom talk during activities and writing/drawing episodes, (2) audio recordings of children's writing/drawing episodes, (3) handwritten observations of classroom language interactions, (4) hand tabulated sheets categorizing children's language according to seven functions, (5) samples of children's writing, (6) written and recorded responses to print awareness tasks, and (7) parent interviews to ascertain language and literacy behavior at home. Analysis was by descriptive, qualitative means. It was found that children who were adept in orally using and combining the seven language functions collected had a developed sense of literacy and performed literacy tasks accordingly. Children whose parents reported more adult-child language exchanges at home seemed to use language in the classroom in a plurality of functions and in texts that fostered learning. Oral language served to sustain writing.

WAXMAN, SANDRA R., & KOSOWSKI, TOBY D. (1990, October). Nouns mark category relations: Toddlers' and preschoolers' word-learning biases. *Child Development, 61*, 1461-1473.

Reports three experiments with preschool children to test the premise that young children approach the task of word learning with implicit biases that lead them to prefer some meaning choices over others. In each experiment, children participated in a five-item match-to-sample task to test noun-category bias. Children were presented with a target item and four choices, two belonging to the same superordinate category of the target and two which were thematically related to the target. Children completed trials and then justified their choices. In Experiment 1, children interpreted novel nouns taxonomically, even in the presence of multiple thematic alternatives. In Experiment 2, performance with novel nouns and novel adjectives was compared. Nouns but not adjectives highlighted category relations at the superordinate level on both first and second choice responses. In Experiment 3, similar findings were elicited from children as young as two years. When interpreting the meaning of novel nouns, children did not sample randomly from the range of possible meanings but focused on superordinate category relations.

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LEHR, SUSAN. (1990, Fall/Winter). Literature and the construction of meaning: The preschool child's developing sense of theme. *Journal of Research in Childhood Education, 5*, 37-46.

Focuses on the ability of 10 four-year-olds to generate and identify theme from stories. The preschool children were individually videotaped as they listened to a story and were then interviewed to determine both their understanding of theme and their ability to retell the story. Following the interview, children were asked to respond positively or negatively to a list of themes from a set of choices. The children were not able to generate theme statements when probed after the story, but talked about thematic elements, an early development of sense of theme. Toward generating themes, children provided examples of how they linked life and book experiences and identified with the feelings of character. When given theme statements from which to choose, children were able to identify an appropriate theme statement, suggesting that four-year-old children construct meaning based on their perceptions of the characters and events in the book and the events in their own lives.

PONTECORVO, CLOTILDE, & ZUCCHERMAGLIO, CRISTINA. (1990). A passage to literacy: Learning in a social context. In Yetta M. Goodman (Ed.), *How children construct literacy: Piagetian perspectives* (pp. 59-98). Newark, DE: International Reading Assocation.

Observes the emergent literacy development of 200 five- and six-year-old children participating in Educational Continuity 4-8, an experimental program in Italy. This program offers continuity for school groups, curriculum, organization, and teachers and involves preschool children ages 4 through 8. Teachers participating in the three-year study received training before and during the program. Data collection included student interviews, writing sample analyses, observations, and repeated testing measures within different social contexts. Results suggested that social interactions with teachers and peers influence the development of literacy and how children learn to read and write. Learning to interact with others and to cooperate autonomously is also mediated through different types of social interactions referred to as tutoring, coconstructing, and arguing.

WORDEN, PATRICIA E., & BOETTCHER, WENDY. (1990, September). Young children's acquisition of alphabet knowledge. *Journal of Reading Behavior, 22*, 277-295.

Documents 188 young children's acquisition of five aspects of alphabet knowledge: (1) letter recitation (singing or saying the alphabet), (2) letter naming (identifying letters by sight), (3) ability to print letters from memory, (4) association of letters with sounds (providing the sound), and (5) association of letters with words (supplying a word beginning with the target letter). These skills were tested for the entire set of upper- and lowercase letters for children whose ages ranged from 2-1/2 to 7-1/2 years. Results of ANOVA and post hoc comparisons with the Newman-Keuls test showed a significant main effect for age for alphabet recitation; performance improved significantly across age groupings and reached asymptote at 6 to 7 years. There were significant effects for both age and letter case for the letter naming task, and a significant main effect for age for alphabet recitation; performance improved significantly across age groupings and reached asymptote at 6 to 7 years. There were significant effects for both age and letter case for the letter naming task, and a significant age × case interaction: there was a greater uppercase advantage at ages 4 and 5, with lowercase catching up at years 6 and 7. For letter printing, age and case were also significant, with children able to print significantly more uppercase than lowercase letters; the uppercase advantage tended to diminish in older children. For the letter-sound and letter-word association tasks, performance improved significantly at all ages on both tasks, with the biggest gains taking place from years 5 to 7. When the data for the older children were compared, no significant differences were found for task type (supplying a sound vs. supplying a word). Overall, performance improved with age, at different rates for the different tasks, and the tasks were all highly correlated with one another.

Bialystok, Ellen. (1991, March). Letters, sounds, and symbols: Changes in children's understanding of written language. *Applied Psycholinguistics, 12*, 75-89.

Investigates young children's understanding of two principles of symbolic representation for written language. Children between the ages of 3 and 5 years who knew the alphabet but could not yet read were given three tasks. To test the children's understanding that each written symbol stands for a single meaning and that, in general, more sounds must be represented by more letters, children were asked to decide which of a pair of presented words was longer when the word pairs were presented orally, in writing, or with accompanying pictures. To test the second principle of invariance, i.e., that nothing in the presentaton of a written symbol or the context in which it occurs can change the meaning it represents, the children "read" a word when it accompanied a picture of the named object and then again when it was moved to a picture of a different object. Finally, children were given a set of plastic letters with which they could create their own words. Although all the children had explicit knowledge of letters and sounds, they lacked symbolic knowledge of how letters represent sounds. Children were more accurate in identifying the longer words when the size of the word corresponded to the size of the object (e.g., hippopotamus vs. dish). Children who were successful on the wrong picture question of the moving word problem were also more successful in selecting the longer word for noncorresponding items (cat vs. caterpillar), in which the words contradicted the empirical relation between the size of the objects they referred to. In general, children were confused by the problem of deciding how many plastic letters were necessary to make a word.

Mason, Joan. (1990, November). The development of concepts about written language in the first three years of school. *British Journal of Educational Psychology, 60*, 266-283.

Tests a three-component model of children's acquisition of concepts about written language in the early school grades. The relation of a wide range of written language concepts that previous studies suggested are related to children's reading acquisition were examined and developmental trends assessed in a cross-sectional study of 189 Australian children from kindergarten (n=47), grade one (n=80), and grade two (n=62). The three components of the model were concepts about the functions and purposes of written language, concepts about the technical features and conventions of written language, and concepts about the processes and strategies of reading. Items from the Linguistic Awareness in Reading Readiness (LARR) Tests were used to test the first two constructs. The third component of the model, concepts about the process of reading, was designed to tap more complex print concepts and was administered only to the first and second graders. Factor analyses were applied to test the three-component model of 14 distinguishable, logical constructs underlying young children's concepts about written language. Results indicated that items measuring the logical functions within each component were found to be valid indicators of the underlying concepts. Second, even in the first months of school, kindergarten children displayed some knowledge of each of the logical functions in the two components of the test on which they were assessed, although their knowledge was predominantly at the recognition level and less well developed than that of older children.

Wimmer, Heinz, & Hummer, Peter. (1990, December). How German-speaking first graders read and spell: Doubts on the importance of the logographic stage. *Applied Psycholinguistics, 11*, 349-368.

Examines the logographic stage in a cognitive developmental model of reading acquisition by studying how German-speaking Austrian first graders read and spelled familiar words and matched pseudowords. The researchers compared 28 normally progressing first graders with 28 children who experienced serious difficulties with beginning to read and write to test whether the children's progress from the logographic to the alphabetic stage poses a major obstacle. Comparative tasks included grapheme knowledge, word/pseudoword reading and spelling, and standardized reading and spelling tests. Delayed readers differed significantly from normally progressing ones in number of words read correctly, reading time, spelling, and grapheme knowledge. In contrast with cited studies conducted with American and British first graders, it was found that both normally progressing and delayed children relied on alphabetic strategies for both reading and writing. Most children were able to read and, to a lesser extent, spell completely unfamilair pseudowords. Reading of pseudowords correlated highly with reading of familiar words, and the same correlation was observed in the case of spelling. Reading errors consisted mainly of nonwords beginning with the first letter(s) of the target, and most spelling errors consisted of spellings that were at least partially phonologically correct. Reading performance was influenced by word exposure time. Both reading performance and spelling performance were strongly predicted by knowledge of grapheme-phoneme correspondences. These findings supported the conclusion that a logographic strategy is of limited importance when the writing system is phonologically rather transparent.

IV-21 Studies on the reading process

WITTROCK, MERLIN C. (1989, Fall). Generative processes of comprehension. *Educational Psychologist, 24,* 345-376.

Presents a model of reading that articulates the processes learners use to construct meaning by building relations among the parts of the text and between the text and what the reader knows, believes, and experiences. Model components include generation, motivation, attention, and memory. Reviews research on the components of the model and its implementation with different-aged learners in school and laboratory settings. Research reviewed includes the work of others, as well as research conducted by the investigator over approximately 20 years of time. Also included are principles of the teaching of generative comprehension that grow out of the research cited and suggestions for research that still needs to be conducted.

PELED, ZIMRA, & WITTROCK, MERLIN C. (1990). Generated meanings in the comprehension of word problems in mathematics. *Instructional Science, 19,* 171-205.

Details and tests a generative-predictional model to account for students' comprehension of simple mathematical word problems. The model of a problem solver was operationally defined by representing the components of the model (task environment and problem space) in two mapping sentences. These operational definitions provided the specifications for the process (domain) and outcomes (range) to be observed and measured. Specifications of the mapping sentences were used to describe students' strategies, to evaluate change effects, and to cluster students' problem representations. To examine the model, talk aloud protocols were gathered from 50 average ability Israeli sixth graders for each of 30 word problems. The participants were asked to talk aloud during the process of solving the problems, to point out unimportant words in the problems, and to restate each problem in a simplified manner. To study complexity, coherence, and generated problem representations, three sets of analyses were completed. The first set explored the characteristics of each of the difficulty facets, specifying task environments as well as their relatedness to one another. The second set explored the hypothetical difficulty of the problem (text-author generated task environments). The third set of analyses examined the pupils' representations of the problems (student generated problem spaces). The results revealed that the model explained a significant portion (.82) of the variance in the outcome measure. Regardless of the different ways in which readers constructed the problem space, the task environment's complexity and coherence were reliable predictors of the task's relative difficulty level. In addition, the data indicated that strategies covaried with task familiarity, the mode of thinking and the kind of experience covaried with the readers' strategies, and strategic tendencies usually were consistent within students. These findings implied that task familiarity, type of experience, and mode of thinking accounted for the different ways in which the student perceived and understood the problems.

DREHER, MARIAM JEAN, & GUTHRIE, JOHN T. (1990, Fall). Cognitive processes in textbook chapter search tasks. *Reading Research Quarterly, 25*, 323-339.

Compares the patterns of text search used by more and less efficient searchers and observes whether these patterns were constant across simple and more complex questions. Subjects were 31 eleventh grade volunteers. On the basis of the school-assigned class placements, participants were labeled gifted (n=14), above average (n=6), or average (n=11). Students initially completed search tasks using a computer-presented chapter taken from an eighth grade earth science textbook, and its accompanying index, table of contents, and glossary. They were asked to search for answers to simple and complex questions. The computer program was designed to allow the subdivision of total search time into the components of category selection, element extraction, and integration. Students also completed a textbook search task, using a life sciences text chapter that was not presented on computer to allow for comparisons between tasks in computer vs. noncomputer presented material. Dependent variables included time to complete tasks and students' sequences of choices in approaching the search tasks. Analyses of results revealed differences between more and less efficient searchers in patterns of time expenditure. A differential pattern occurred on both the simple and the more complex questions. As task complexity increased, more efficient searchers (those taking less time) allocated relatively more of their search time to the initial stages of text search, during which they selected relevant categories of information for pursuing their goals. As a consequence of making a more methodical choice of categories to search, more efficient searchers were able to spend less time than less efficient searchers on the actual extraction of target information. It was additionally determined that a significant correlation coefficient (r=.49) existed between computer and noncomputer tasks, suggesting that students engaged in similar activities with both presentation formats.

STEINLEY, GARY L. (1990, Summer). Order of processing and attention allotment between comprehending and using text ideas. *Reading Horizons, 30*, 277-287.

Extends an earlier study using similar materials and instrumentation. Questions studied were: (1) whether extent of background and/or typical processing style affect the order of processing between the two processes of comprehending a text and using text ideas for a comparison/contrast thinking task, and (2) the extent to which readers might explain processing style when reading to comprehend and to use text ideas for a thinking task. Data were collected in one-on-one interviews from 39 college juniors. Subjects read a text about word searches. Then they read target texts about games, doublets, and crossword puzzles, and completed a Processing Style Inventory, which asked them to classify themselves as typically more linear or more parallel. For each paragraph, subjects recorded whether their primary attention was directed toward comprehension or toward compare and contrast, and explained why they answered as they did. Subjects with considerable background for the text who considered themselves parallel processors received higher parallel processing scores. Readers with limited background read in more linear fashion. Subjects tended to read in the manner they had classified themselves. Qualitative analysis of comments suggested that subjects with limited background had insufficient information for comparing and contrasting. Subjects with extensive background also reported more use of comprehension, but explanations differed from those of subjects with limited background

Hynd, Cynthia R., & Alvermann, Donna E. (1989, Summer). Overcoming misconceptions in science: An on-line study of prior knowledge activation. *Reading Research and Instruction, 28*, 12-26.

Explores how readers overcome or fail to overcome their prior knowledge deficits while reading science text. Subjects were 96 nonscience majors who demonstrated a misconception about Newtonian principles of motion. Subjects were randomly assigned to six groups formed from three levels of activation and two levels of text. Refutational versions contrasted Newton's idea about motion to widely held misconceptions evolved from impetus theory. Nonrefutational versions discussed Newton's principles of motion without discussing misconceptions. One-third had their background knowledge activated, one-third received activation plus a statement to pay attention to ideas that might be different from their own, and the group served as a control. All students then read either refutational or nonrefutational text, completed a buffer activity, and completed a short final answer test, a true-false posttest, and a posttest application problem. No significant differences were found, although students who had misconceptions activated did better on short-answer and true-false tests. Four students then reread the same text on computer and recalled what they were thinking when they saw the text for the first time. Four students participated in a talk-aloud recall session. Seven students completed both the talk-aloud and read and reflected on the computer presented text. The researchers suggest that students who have misconceptions about a theory after a formal study of physics may have more difficulty overcoming them than students who have had no formal coursework in physics. Students who use a variety of processing strategies may have an advantage over students who use limited processing strategies.

Meyers, Joel; Lytle, Susan; Palladino, Donna; Devenpeck, Gillian; & Green, Michael. (1990, June). Think-aloud protocol analysis: An investigation of reading comprehension strategies in fourth- and fifth-grade students. *Journal of Psychoeducational Assessment, 8*, 112-127.

Studies a think-aloud protocol analysis that permits assessment of readers' problem solving through their descriptions of "moves" and "strategies." Moves were defined as responses that reflect what the reader is doing at a given time to comprehend, and strategies were defined as patterns of moves used to solve a particular problem with comprehension. Twenty-seventh fourth and 9 fifth graders were monitored for a total of 24 moves (grouped into six major categories) to reflect the degree to which the pupils used monitoring, elaboration, signaling understanding, reasoning, analysis, and judgment while they were reading three fictional passages and thinking aloud. Retellings were used as a measure of global comprehension. The percentage of each move used by individual subjects was stable across the three stories that were administered. Significant correlations were obtained between comprehension of the passage used to obtain the think-aloud protocols and two of the six categories of moves: reasoning and signaling understanding. pupils used elaboration, signaling understanding, and reasoning most frequently, monitoring doubts less frequently, and analysis and judgment rarely. Suggestions are made for future research that addresses the validity of think-aloud protocol analysis as a diagnostic technique and as an approach to facilitate comprehension skills.

Kardash, CarolAnne M., & Amlund, Jeanne T. (1991, April). Self-reported learning strategies and learning from expository text. *Contemporary Educational Psychology, 16*, 117-138.

Describes, in two related studies, the development of the Learning Strategies Survey and the use of the survey to predict learning from expository text. Several large samples of university students enrolled in a variety of social and behavioral science courses participated in the studies. Factor analysis techniques applied to items in the survey yielded two stable factors: a Covert Cognitive Processes scale representing strategies for internal elaboration and organization of material to be learned, and an Overt Processes scale representing observable encoding strategies. The former related positively and consistently to students' GPAS and significantly predicted recall performance of two expository passages. The latter was unrelated to students' GPAS or recall performance.

HASHWAY, ROBERT M., & HASHWAY, SUSAN E. (1990, Spring/Summer). Solving mathematical word problems: Integrating frames of reference and world models. *Forum for Reading, 21*, 32-38.

Reports observations over a period of one academic year of the mathematical problem solving of 300 college students enrolled in developmental mathematics courses at a large university. Students were observed as they solved word problems in their classrooms, and work samples were collected for analysis. They also were interviewed to determine the difficulties they were encountering. Results suggest that students experience difficulty in applying past experience, knowledge, and mathematics language to form internal world models for solving problems. They need practice with vocabulary, inferencing, determining the main idea, and organizing information.

GARNER, RUTH, & ALEXANDER, PATRICIA A. (1989, Spring). Metacognition: Answered and unanswered questions. *Educational Psychologist, 24*, 143-158.

Surveys findings emerging from research on metacognition. The article concludes with a list of questions arising from the research that need to be addressed empirically.

LABERCANE, GEORGE. (1990, Winter). The possible world of the reader. *Reflections on Canadian Literacy, 8*, 145-152.

Interviews four upper elementary age children for their views on reading. One boy in particular was used as the key informant. Following a series of questions attempting to gain insight into his views on reading, he was given a chapter from a book of fiction to read silently and then asked to respond to a series of questions about the chapter. The boy also was asked to respond to selections of his own compositions. Examination of the boy's responses indicated that it is the reader's stance that is crucial in allowing the reader access to the world of the text. Stance is reflected in the reader's ability to be tentative and open-minded. Implications for classroom practice are discussed.

OPITZ, MICHAEL F. (1989, Winter). Investigating the importance of interviewing in diagnosing Chapter 1 students' reading. *Reading Improvement, 26*, 336-344.

Examines the contribution of interviews to the process of reading diagnosis. Subjects were 9 reading teachers and 26 fourth graders involved in Chapter 1 reading programs in nine schools in six districts in Oregon. The existing reading profiles of the children were examined to determine the nature of the data recorded that pertained to reading behavior. The teachers were interviewed to access knowledge they had about the pupils' reading behavior that was not recorded on the profiles. Children were interviewed to access their perceptions of reading as well as the strategies they used while reading. All interviews were taped and later transcribed, and categories pertaining to various types of information gathered were identified. Frequencies of categorized information from the reading profiles indicated that results of standardized tests were most often recorded, and results of informal diagnosis were least often recorded. Frequencies of teachers' responses indicated teachers implicitly knew pertinent information about children's backgrounds, strengths, and weaknesses, but usually were unaware of their reading strategies. Frequencies of pupils' responses indicated they could generally relate information about their strengths and weaknesses as well as strategies they used while reading.

LANGER, JUDITH A. (1990, October). The process of understanding: Reading for literary and informative purposes. *Research in the Teaching of English, 24*, 229-260.

Attempts to describe the ways in which middle and high school students create meanings when they are reading for literary or informative purposes. Participants were sought from the seventh and eleventh grades of one innercity school and one suburban district. Of those expressing interest, nine were selected from each grade level in each school. Selections were based on reading achievement as demonstrated on a statewide standardized reading test and verified by teacher judgment. At each grade level, three students at three reading achievement levels (average, above average, below average) were identified. Each student engaged in a series of think-aloud sessions during which each read two short stories, two poems, one science selection, and one social studies selection. In all, 216 protocols were collected, tape recorded, and transcribed. Data were analyzed qualitatively through successive steps of data reduction and verification. Findings indicated four recursive stances readers take in relation to the text: (1) being out and stepping into an envisionment, (2) being in and moving through an envisionment, (3) stepping back and rethinking what one knows, and (4) stepping out and objectifying the experience. In addition to using these stances, students' overall orientation toward literary meaning-building involved exploring a horizon of possibilities, while the reading of other materials involved maintaining a point of reference. This was the distinction that seemed to underlie the different approaches to understanding that students called upon when reading for literary and informative purposes.

PRESSLEY, MICHAEL, & GHATALA, ELIZABETH S. (1990, Winter). Self-regulated learning: Monitoring learning from text. *Educational Psychologist, 25*, 19-33.

Reviews a series of the authors' recent investigations of monitoring during text processing. Drawing from this research, they suggest that (1) there are development improvements in monitoring from childhood to adulthood; (2) monitoring is more likely to occur during a test than during study, although monitoring during a test is more certain during the later elementary school years; and (3) monitoring, even by skilled adults, is often far from optimal. While they suggest that monitoring is necessary for consistently efficient thinking, they conclude that efficient self-regulated study occurs much less frequently than previously suggested by cognitive researchers.

GORDON, CHRISTINE. (1990, Fall). Changes in readers' and writers' metacognitive knowledge: Some observations. *Reading Research and Instruction, 30*, 1-14.

Presents an exploratory study of sixth grade pupils' changing awareness of text characteristics, of themselves as readers and writers, and of their monitoring strategies during the reading and writing of narrative and expository text. Main data sources were written interview tasks, oral interviews conducted immediately after reading and writing tasks, and analyses for text structure of students' compositions. Data were obtained at the beginning of the school year and at year end. Data from this study were triangulated with data from a larger study which focused on improving knowledge and use of text structure to facilitate comprehension and writing. Most major shifts in knowledge of self as reader and writer fell in the cognitive rather than the affective domain. Trends observed include an increased awareness of elaborated schemata for narrative and expository text structure, knowledge about the importance of affect in decisions on strategy use, gradual awareness of use of a variety of sense-making strategies for reading and writing, and a greater use of self-monitoring strategies.

STEINBERG, INA; BOHNING, GERRY; & CHOWNING, FRITZI. (1991, Spring). Comprehension monitoring strategies of nonproficient college readers. *Reading Research and Instruction, 30*, 63-75.

Describes how nonproficient college readers monitor their comprehension when presented difficult expository text. The sample comprised 20 freshmen all of whom scored below the 15th percentile on the NDRT. Difficult expository text was defined as a typical college textbook covering a topic about which the subjects had little knowledge. All subjects read and responded to the same text passage. Data sources were transcripts of think-aloud sessions and retrospective comments. Analysis involved classifying the units of data using a comprehension monitoring taxonomy. The results described reading behavior in two ways: (1) as a global description of the word-related, sentence-related, and discourse-related strategies used by nonproficient readers and (2) as a process description of how the readers monitored their comprehension when reading proceeded with ease and when problems in understanding occurred. In general, when reading proceeded with ease, the readers paraphrased, made inferences, or identified important points. At other times, they added explanatory words or linked portions of the text by recalling information. When difficulties in understanding occurred, they used strategies to correct or resolve the snag. If the snag was word related, they either consulted a glossary, formulated a guess about word meanings, or read on. If the snag was idea related, they reread or made a mental note of the confusion. Finally, nonproficient readers often closed off a snag by paraphrasing, making an inference, or interrelating the text by drawing conclusions.

KINTSCH, EILEEN. (1990). Macroprocesses and microprocesses in the development of summarization skill. *Cognition and Instruction, 7*, 161-195.

Explores how students' mental representations of an expository text and the inferences they generated varied as a function of text difficulty and of differences in the task. Subjects were 96 students from grades 6, 10, and college. All subjects were native speakers of English whose reading skill reflected a high-average achievement level. Materials were two passages of expository text written at a sixth grade level of difficulty in a compare-contrast rhetorical structure. Four versions of each passage were developed by modifying the quality (good/poor) or text structure (macro/micro). Subjects were tested individually by reading one version of a passage, writing a summary, and responding orally to four probe questions about the passage content. Summaries and responses to probe questions were scored and analyzed using both ANOVA and MANOVA procedures. Results of both the inference and the macrostructure analyses supported the prediction of a gradual increase with age in the amount of meaning construction processes that take place in summarizing. Younger readers were able to relate details from the text to a global topic, whereas older students differentiated more levels of importance in the information read. Difficulty at the macroprocessing versus microprocessing levels affected the summaries of the three age groups in different ways. The patterns of results indicated not only that the older students generated more inferences but also that they seemed to control their processing more effectively.

GRABE, MARK; ANTES, JAMES; KAHN, HELEN; & KRISTJANSON, ARLINDA. (1991, January). Adult and adolescent readers' comprehension monitoring performance: An investigation of monitoring accuracy and related eye movements. *Contemporary Educational Psychology, 16*, 45-60.

Investigates how comprehension monitoring and recovery from comprehension failures is reflected in eye movement patterns, how processing is influenced by telling readers to search for inserted errors, how readers recognize information that contradicts existing knowledge, and whether readers recognize information in the text that contradicts other information in the text. Subjects were 39 college students and 38 adolescents who were sixth or seventh graders. Subjects read paragraphs containing internal and external contradictions. Paragraphs and questions were presented on a screen located in front of the readers so that eye movements could be monitored. Gaze durations for each of three eye movement categories were calculated within critical or noncritical regions of text. Intact paragraphs were identified more consistently than paragraphs containing internal errors or external errors. Less than half the inserted errors were correctly identified. Older readers were more accurate in detecting and describing external errors than younger readers, but no differences were significant for internal errors. Eye movement patterns were influenced by the presence of inserted errors and by instruction to locate errors.

GOETZ, ERNEST T.; SADOSKI, MARK; & OLIVAREZ, ARTURO, JR. (1991, January-March). Getting a reading on reader response: Relationships between imagery, affect, and importance ratings, recall, and imagery reports. *Reading Psychology, 12*, 13-26.

Reanalyzes data from two previous investigations to evaluate (1) the validity of imagery ratings and reports as measures of reader response to a story, and (2) similarity of final regression models for recall and imagery reports. The data used in the present study included both mean ratings (Likert-type scales) of imagery, affect, and importance for story paragraphs completed by 45 undergraduate education students collected in response to their reading of one 2,100-word excerpt from an adolescent novel and reports of spontaneous mental imagery and recall for the same story gathered from 72 community college readers. Data were tested using within-subjects hierarchical regression analyses to permit detailed examination of the relative contribution of multiple predictors of within-subjects variance. Imagery ratings of story paragraphs by one group of readers predicted both imagery reports and recall performance for the second, independent group of readers. Comparison of final regression models for imagery and recall revealed differences that appeared to support a dual code hypothesis.

CARON, THOMAS A. (1990, Winter). Responses to varying difficulty of expository prose. *Reflections on Canadian Literacy, 8*, 164-171.

Explores strategies used by expert readers to comprehend expository text of varying levels of difficulty. Participants included 10 university students who had scored at least Grade 14 on the NDRT. Three text passages, representing expository text of three levels of difficulty, were secured from published articles in relatively obscure journals. Think-aloud data were collected for analyses by having subjects dictate into a tape recorder as they read the passages. Content analysis was used to identify strategies that seemed to underlie subjects' verbalizations. Six categories were identified and included metastatement, problem solving, repetition, surface structure, surface response, and divergent. Frequencies of occurrence of these categories were tabulated and compared across passage difficulties using MANOVA techniques. Results revealed that the frequencies of occurrence of problem solving, surface structure, and surface response categories increased with text difficulty. It was suggested that expert readers seemed to engage with text through problem solving more often when reading more difficult text.

BLOOM, CHARLES P.; FLETCHER, CHARLES R.; VAN DEN BROEK, PAUL; REITZ, LAURA; & SHAPIRO, BRIAN P. (1990, January). An on-line assessment of causal reasoning during comprehension. *Memory & Cognition, 18*, 65-71.

Tests the hypothesis that readers engage in a form of causal reasoning when they read simple narrative texts. The subjects were 25 university students from introductory psychology courses. Experimental materials were eight short narratives that dealt with a variety of topics. Each text included four hierarchically embedded goals. The organization of these goals was manipulated across texts to produce variation in the proportion of causal links involving nonadjacent clauses. Subjects read the eight narratives in a unique random sequence. Each text was presented one word at a time on a computer screen at rates subjects were able to control. Following the reading of each narrative, subjects wrote all they could recall from the passage. Reading times were collected for a total of 1,237 words for each subject, and the mean reading time per word was calculated for each of the 158 clauses from the eight texts. Recall protocols were scored by two judges (with 93% agreement) and the free recall probability for each of the 158 clauses was determined. Regression and/or multiple regression analyses were applied to both the time and recall data to assess effects. Results showed that (1) causal links between clauses that co-occur in short term memory increase the time required to read the second clause, (2) potential causal links between clauses that never co-occur in short term memory have no effect on reading time, and (3) reinstatement searches are initiated at the end of sentences that are causally unrelated to the contents of short term memory or that contain clauses that satisfy goals no longer in short term memory.

Rakes, Thomas A., & Chance, Lucindia H. (1990, Summer). A survey of how subjects remember what they read. *Reading Improvement, 27*, 122-128.

Samples both children and adults to find out (1) what they do to remember what they've read, (2) who taught them how to remember what they've read, and (3) whether they had been taught to remember what they had read. The three question survey was orally administered to 156 elementary pupils, 182 junior and senior high school students, and 206 graduate students. For all three age levels, adjunct strategies were reported as being used more often than pre- or postreading strategies. When asked if they had been taught to remember what they had read, 71% of adults felt that they had not been taught, while 78% of junior and senior high school students and 59% of elementary pupils replied that they had been taught. Most children and adolescents replied that a teacher had taught them, whereas 57% of adults responded that they were self-taught.

Leong, Che Kan. (1989). Productive knowledge of derivational rules in poor readers. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. *39*, pp. 94-115). Baltimore, MD: Orton Dyslexia Society.

Reports two experiments examining the orthographic and phonological factors in derived morphology affecting reading and spelling performance. The same 75 poor readers in grades 4, 5, and 6 served as subjects for both experiments. Pupils were identified as below average readers based on scores from the Vocabulary and Reading Comprehension subtests of the Canadian Tests of Basic Skills. These scores in addition to WRAT spelling scores were used to further divide pupils into those performing better in both reading and spelling, those performing worse in both tests; and a mixed subgroup. In Experiment 1, knowledge of the derivation of words in sentential contexts under four conditions was assessed. Children were required to vocalize rapidly the derived forms of words when primed with 40 target base words in four derivational conditions or levels embedded in sentence frames displayed on a computer screen. Experiment 2 demanded the vocalizing of the base forms of words when primed with 40 complex derived forms in the same four morphological conditions embedded in sentence frames. Results of the analyses of the two experiments suggest that poor readers in grades 4, 5, and 6, differing in reading and spelling performance, use different mechanisms in producing derived or base forms of words according to the complexity of the orthographic or phonological changes needed in the derivational process.

Schwanenflugel, Paula J., & White, Calvin R. (1991). The influence of paragraph information on the processing of upcoming words. *Reading Research Quarterly, 26*, 160-177.

Performs three experiments in examining how readers combine immediate sentence context with information presented earlier in a paragraph in processing words in text. In particular the study aimed to determine whether contradictory discourse-level information influenced the processing of upcoming words in text in spite of strong and available expectations for particular words from local sentences. Each experiment employed 32 undergraduate students as subjects. Experiments 1 and 2 used a lexical decision task to assess the influence of discourse-level information. In Experiment 1 the discourse-level information appeared in sentences distant from the final sentences, while in Experiment 2 the information appeared near to the final sentence. For both experiments, discourse-level information was found to alter the pattern of facilitation based on the final sentence alone, so that both locally expected words and unexpected words related to the discourse information were facilitated. Experiment 3 employed naming rather than lexical decision as the processing task. A pattern was found similar to the pattern noted for the lexical decision task in the first two experiments.

GOLDEN, JOANNE M., & GERBER, ANNYCE. (1990, September). A semiotic perspective of text: The picture story book event. *Journal of Reading Behavior, 22*, 203-219.

Examines how words and pictures relate in a picture storybook and also explores how a picture book symbol is transformed during teacher-student-text interaction. One second grade classroom comprising 24 Native American children in a public school on a reservation was viewed. The event presented was one in a series of literary experiences the pupils engaged in over the school year and was selected to illustrate how semiotic theory can be applied to such events. The teacher wished pupils to focus on the literary element of character and on visual imagery. As the picture book evolved from the potential to a realized sign, it went through four phases: (1) listening to the story read aloud, (2) exploring the traits of the character, (3) writing a letter to the author, and (4) visualizing a personal dream world.

COTHERN, NANCY B.; KONOPAK, BONNIE C.; & WILLIS, ELIZABETH L. (1990, Fall). Using readers' imagery of literary characters to study text meaning construction. *Reading Research and Instruction, 30*, 15-29.

Examines similarities and differences in character imagery produced by two children during literary reading. Of specific interest were comparisons of pupils' character descriptions with what was written in the texts, and comparisons of pupils' descriptions with one another. Subjects were a fourth grade girl and a seventh grade boy selected for their above average reading achievement and cultural similarities. Subjects were asked to read two unfamiliar texts. Interviews conducted with each child during and following each reading were audiotaped and transcribed. Phrases describing characters as found in the text and in each child's report were identified and categorized as pertaining to the characters' (1) lifestyle characteristics, (2) personality traits, or (3) physical appearance. Descriptive statistics indicated greater differences than similarities between pupils and texts as well as between the subjects themselves. Children seemed to focus on different textual cues leading to their extending and interpreting text differently.

ANDERSON, DEBRA J. (1990, Summer & Fall). Parallel processes in the reading and writing of sixth graders. *Reflections on Canadian Literacy, 8*, 98-104.

Investigates reading and writing as parallel processes to yield insights into the processing styles of individuals, and to determine whether certain cognitive-linguistic processes were more likely than others to be common to reading and writing. Eight Canadian sixth graders, judged as both good readers and good writers, were asked to think aloud as they read and then as they wrote a story. For both sessions, subjects were asked to go back over the story and review their thinking retrospectively. An interview after each session probed subjects' reactions to thinking aloud, what surprised them during reading or writing, their opinions of the stories, and their use of strategies. Introspective and retrospective protocols were examined for evidence of parallelism between the cognitive processes of reading and writing, as defined by 14 categories of behaviors that were further classifications of planning, refining, and reviewing. Verification data were collected from qualitative analysis of protocol patterns, interviews with subjects and their teachers, cumulative files, and subjects' journals. Some processes were used much more than others, and some were emphasized more during one language activity than during the other. The writing task demanded more planning processes, while reading involved refinement of meaning to a somewhat greater degree. Six subjects used similar approaches to both reading and writing. Three processing styles were defined: inquiring, interpretive, and predictive. Reading appeared to encourage accommodations to existing schema, while connections between schema were made during writing.

MELOTH, MICHAEL S. (1990, December). Changes in poor readers' knowledge of cognition and the association of knowledge of cognition with regulation of cognition and reading comprehension. *Journal of Educational Psychology, 82*, 792-798.

Reexamines data from a previously published study in order to examine more closely the relations among instruction, metacognition, and reading performance. Subjects were 20 third grade teachers (10 treatment and 10 control) and their low-group readers (n=177). Six measures were included in the reexamination data: knowledge of cognition interviews, concepts of reading interviews, a graded oral reading paragraph, the supplemental achievement measure, Word Study Subtest of the SAT, and the Michigan Education Assessment Program Reading subtest. Data were examined to identify changes in knowledge of cognition over the academic year and the extent to which the changes were associated with strategy use and comprehension. The treatment given in the original study was intended to improve children's awareness of how reading strategies aid comprehension. Findings showed that low readers' knowledge of cognition increased only moderately over the academic year. The knowledge was associated with strategy use and comprehension performance, but extensive instructional time was needed before significant differences were found between the treatment and control groups.

ACKERMAN, BRIAN P., & GLICKMAN, ILENE. (1989, October). Place and action in children's representations of stories. *Journal of Experimental Child Psychology, 48*, 246-269.

Investigates in four experiments the importance of information relating to place and action in the story representations of children and college students. Varied numbers and combinations of second, fifth, and sixth graders as well as college undergraduates participated across the four experiments. Subjects listened to stories, each seven sentences in length and each preceded by a place title, an action title, or no title. Sentence two of each story described the premise or intention and location of the character in initiating an action sequence. Sentence five described the outcome which was either consistent or inconsistent with the premise. Yes/no questions were asked after each story to ascertain subjects' memory for detail, ability to judge story adequacy, and ability to detect consistency/inconsistency of place or action. ANOVA procedures applied to no answers and to conditional probabilities for answering judgment questions correctly, given a correct detection, indicated that place inconsistency plays a more prominent role in children's judgment of story adequacy than action inconsistency. Exceptions to this finding occur when action involves story theme. Developmental differences were more apparent in judging action rather than place inconsistency.

EHINDERO, O.J. (1990, November). A discriminant function analysis of study strategies, logical reasoning ability, and achievement across major teacher undergraduate curricula. *Research in Education, 44*, 1-11.

Examines the relation of study strategies and achievement for students of four major content disciplines: physical sciences, biological sciences, social studies, and language arts. Subjects were 538 prospective secondary school teachers involved in a required curriculum development course at a university in Nigeria. Subjects were divided into high (formal) and low (concrete) achievers on the basis of cumulative GPA and scores on Piagetian tasks. Strategies used to study were assessed on a questionnaire developed during a pilot study conducted with 250 students representative of the study sample. MANOVA and discriminant function analysis procedures applied to the data indicated that high and low achievers utilized contrasting study strategies. The variations in use of different study strategies were reflective of the text structures inherent in each discipline.

Van Haneghan, James P. (1990, June). Third and fifth graders' use of multiple standards of evaluation to detect errors in word problems. *Journal of Educational Psychology, 82*, 352-358.

Explores 78 third and 77 fifth graders' detection of errors in 24 "compare" word problems at two levels of difficulty, 12 easy and 12 difficult. Children searched for calculation errors (simple subtraction errors) and unanswerable problems (problems which were internally inconsistent). Subjects were tested individually and received either specific instructions giving examples of each error type or general instructions which asked them to check answers and problem texts. Children were probed if unable to find errors on their own and assisted if unable to detect errors after probing. Subjects were scored for errors recognized, times and kinds of responses for errors, and level of help needed at each difficulty level. Fifth graders outperformed third graders. Children who received specific instructions outperformed those receiving general instructions. Children did better on easy problems than on difficult problems. In general, children found more calculational errors than operational errors, and more operational errors than unanswerable problems. A three-way interaction existed among grade, instructional condition, and error type, with the instructional effect for third graders' performance on operation errors with specific instructions. Most children were able to find errors without help, but the number finding errors independently decreased with difficulty level. Results suggested that the development of error detection skills involves the increased application of multiple standards of evaluation.

Pritchard, Robert. (1990, Fall). The effects of cultural schemata on reading processing strategies. *Reading Research Quarterly, 25*, 273-295.

Examines how cultural schemata influence students' reported strategies and their reading comprehension. Sixty proficient eleventh grade readers (30 from the U.S. and 30 from the Pacific island nation of Palau) read culturally familiar and unfamiliar passages in their own language. The students were asked to give verbal reports of their reading strategies as they read and to retell the passage after the reading. From the verbal reports the author compiled a taxonomy of 22 process strategies in five categories: (1) developing awareness, (2) accepting ambiguity, (3) establishing intrasentential ties, (4) establishing intersentential ties, and (5) using background knowledge. Students were found to use strategies in categories 1 and 3 significantly more often for the culturally familiar than for the unfamiliar passage. The Americans used a wider range of strategies than the Palauans. An examination of the individual protocols revealed differences related to cultural familiarity in the rate and sequence of connections that readers made between individual propositions in the text. In their retellings, students recalled significantly more idea units and produced more elaborations, as well as fewer distortions, for the culturally familiar than for the unfamiliar passage. The author concluded that cultural schemata appeared to influence readers' processing strategies and the level of comprehension they achieved. Furthermore, students who lacked background knowledge of the topic of a text appeared to use comprehension monitoring strategies as scaffolding for their construction of meaning from the text.

Horiba, Yukie. (1990, Summer). Narrative comprehension processes: A study of native and non-native readers of Japanese. *Modern Language Journal, 74*, 188-202.

Examines the comprehension processes that occur as 9 native and 11 nonnative adult speakers of Japanese read and recall text. Native language speakers were all female; nonnative speakers were 7 male and 4 female American university students taking an advanced level Japanese language course. Half of the subjects within each language group were randomly assigned to read a simple 10-sentence story using a think-aloud procedure; the other half read normally. Each sentence was presented on a separate index card, with blanks after every two cards to prompt the reader's thinking aloud. Following reading, each subject was asked to produce a recall of the text. Nonnative speakers repeated the procedure, rereading the text and producing a second written recall. Recalls were scored using both propositional analysis and the causal structure that connected the text's opening to its outcome. Transcribed think-alouds were tallied for frequency of predictions, questions, comments on structure, comments on own behavior, confirmation of predictions, references to antecedent information, inferences, and general knowledge and associations. Nonnative readers made significantly more comments on their own behavior, whereas the proportion of inferences, elaborations, and references to general knowledge and associations were higher for native speakers. Recall data indicated that, when reading the story for the first time, nonnative speakers recalled as many propositions and causal statements as native speakers, successfully constructing a mental representation of text, although their representations contained fewer causal links.

Suarez, Andres, & Meara, Paul. (1989, Autumn). The effects of irregular orthography on the processing of words in a foreign language. *Reading in a Foreign Language, 6*, 349-356.

Designs an experiment to investigate second language speakers' methods in recognizing English words. Subjects were 12 native Spanish speakers, all teachers at the Spanish school in London, and 8 native English speakers who served as controls. Participants were asked to read aloud a series of words which appeared one at a time on a computer screen. Four lists of 30 words each were prepared: regular words, irregular words, regular pseudowords, and irregular pseudowords. Numbers of correct pronunciations were calculated. ANOVA procedures revealed that Spanish subjects made significantly more errors than did English speakers, with the difference being particularly marked in the case of exception forms. Findings were interpreted as suggesting that the Spanish speakers might be relying on the phonological route with a reliance on direct visual access for a few high frequency items in recognizing English words.

Underwood, Geoffrey; Clews, Susan; & Everatt, John. (1990, February). How do readers know where to look next? Local information distributions influence eye fixations. *Quarterly Journal of Experimental Psychology, 42A*, 39-64.

Investigates eye movements during reading to determine whether skilled readers give more visual attention to the informative parts of words and avoid fixating on redundant parts. Two experiments were conducted with university students. Experiment 1 investigated whether redundancy of word endings and word beginnings influences the pattern of fixations immediately before and immediately after the inspection of the target word, and the pattern of fixations of the target word itself. Four types of words were used and were presented in short one-line sentences that did not predict the target word. In Experiment 2, the same words were used, but in constant prior contexts. When a single fixation was made, it was longer than the first of two fixations and was located nearer to the word's center than was the first of two fixations. Words with informative endings produced a single fixation nearer to the word's ending than did words with redundant endings. Numbers of fixations and location of fixations were influenced by distribution of information and word type. Results suggest the use of parafoveal processing during reading and the value of parafoveal preview.

DECORTE, E.; VERSCHAFFEL, L.; & PAUWELS, A. (1990, June). Influence of the semantic structure of word problems on second graders' eye movements. *Journal of Educational Psychology, 82*, 359-365.

Examines the influence of the semantic structure of one-step addition and subtraction word problems (simple to complex) on the eye-fixation patterns of 10 high-ability and 10 low-ability Flemish second graders. To assign the children to ability groups, the researchers gave a paper-pencil test consisting of 16 one-step addition and subtraction word problems. To determine the effects of semantic complexity on response time and on the amount and proportion of eye-fixation time spent on words and on numbers in the problems, 16 target addition and subtraction word problems were presented to each child, half of which represented semantic problem types considered simple and half having a complex semantic structure. ANOVA revealed significant main effects for problem complexity on all dependent variables. Complex problems elicited more erroneous answers and longer response times than simple ones; moreover, pupils spent more fixation time on the words in complex problems than in simple ones. In contrast, the effect of fixation time on numbers was not significant. For a subgroup of 10 children, the data for two substages were analyzed separately. The data provided additional evidence that the semantic factor plays a crucial role in word problem solving, suggesting that the longer mean response time for complex problems was not due to slower initial reading of the text but to the longer duration of the second stages, consisting of rereadings of the problem and calculation.

DUFFY, SUSAN A., & RAYNER, KEITH. (1990, April/June). Eye movements and anaphor resolution: Effects of antecedent typicality and distance. *Language and Speech, 33*, 103-119.

Sets out to investigate the manner in which eye movements are coordinated with comprehension processes. Adult members of a university community constituted the subjects for the two experiments reported (n=52, 32). Subjects' eye movements were monitored as they read paragraphs containing an anaphoric noun phrase. In Experiment 1, each subject read 20 paragraphs, 5 in each of four conditions: high typical category noun as the antecedent word, low typical category noun as the antecedent word, close condition for the target word, and distant condition for the target word. The four conditions were created by crossing typicality and distance. Gaze durations on the target noun and the rest of the line immediately following the target word were calculated. Fixations on the anaphoric noun were shorter when its antecedent was close and typical of the noun category than when it was distant and/or atypical. In Experiment 2, new paragraphs were composed in which two factors were varied: distance of antecedent and type of target noun anaphor. Distance was manipulated as in the first experiment; the target noun anaphor was either a category name or a more semantically empty noun that could replace the category name in a sentence. In both instances, the same noun was the antecedent. Distance of antecedent affected anaphor fixation times for category name anaphors but not for general noun anaphors. The findings suggested that the eyes do not wait for the completion of anaphor resolution processes, but rather that these processes are completed after the eyes have left the anaphoric noun. Two different stages in anaphor resolution were posited by the different patterns of effects on the anaphors and the postanaphor region.

IV-22 Comprehension research

REUTZEL, D. RAY, & HOLLINGSWORTH, PAUL M. (1991, Winter). Reading comprehension skills: Testing the distinctiveness hypothesis. *Reading Research and Instruction, 30,* 32-46.

Explores the validity of the reading comprehension skills distinctiveness hypothesis. Participating in the study were 61 fourth graders and 53 sixth graders, all from six classrooms in the same year-round school. Pupils were randomly assigned to either a control group or to one of the following instructional conditions: locating details, drawing conclusions, finding the sequence, and determining the main idea. Fall scores on the CTBS Reading Comprehension subtests were analyzed using ANOVA procedures and revealed no significant differences among treatment groups. Pre- and posttest scores on the Barnell Loft Specific Skills Tests were used to assess gains in comprehension abilities in the four specific reading comprehension skill areas of instruction. Inservice sessions before and during the research were given to the six regular classroom teachers and to four additional teachers who assisted in the study. Five teachers were randomly assigned to the fourth grade control and experimental groups and five to the sixth grade control and treatment groups. Ten lessons were developed for each of the four comprehension skill areas, each lasting from 25 to 30 minutes per day and taught over 10 consecutive school days. Controls engaged in sustained silent reading (SSR) for the equivalent amount of time. Mean posttest scores on each of the four comprehension skill measures were analyzed using ANCOVA procedures. No significant differences were found between experimental and control scores on the four comprehension skills. All groups increased their mean scores from pre- to posttest except for the grade 6 SSR group on finding the sequence.

NOVAK, JOSEPH D. (1990, January). Concept maps and Vee diagrams: Two metacognitive tools to facilitate meaningful learning. *Instructional Science, 19,* 29-52.

Reviews a series of research studies and psychological and epistemological foundations of two metacognitive, heuristic tools, concept mapping, and Vee diagramming, and reports the utility of these tools from grade 1 through university level. Data from studies over a 10-year period and from a variety of qualitative and quantitative research studies support the use of these two tools for cognitive and affective gains.

LOVETT, SUZANNE B., & FLAVELL, JOHN H. (1990, December). Understanding and remembering: Children's knowledge about the differential effects of strategy and task variables on comprehension and memorization. *Child Development, 61,* 1842-1858.

Describes three studies investigating developmental changes in knowledge about the differences between the mental processes of comprehension and memory. Two types of knowledge were assessed: (1) knowledge about the types of strategies appropriate for achieving the goals of comprehension, memorization, or a combination of the two, and (2) knowledge about how different task variables differentially affect comprehension and memorization tasks. Subjects of the three studies were 24 first graders, 24 third graders, and 24 undergraduate students. All three groups were involved in Experiment 1, first graders only in Experiment 2, and third graders only in Experiment 3. Subjects were individually assessed on two tasks. The first was a strategy-comparison task in which they were asked to decide which of three strategies (rehearsal, word definition, or word definition with rehearsal) was the best way to prepare for a rote recall test, a memory test, a word comprehension test, and a test involving a combination of the two tasks. The second task was a list-comparison task in which subjects were asked to compare lists of words and decide which of two lists would be easier to learn for a memory test and which would be easier to learn for a comprehension test. The first grade subjects in Experiment 2 were asked to decide which of two strategies (rehearsal or word definition) would be the most effective for preparing for each of two tests (from Experiment 1) in which a number of the lists were increased in length. Data analyses revealed that only the two older groups showed some understanding of the comprehension-memory distinction with respect to strategy knowledge. Only the undergraduates correctly differentiated between the two mental processes with respect to the task variables of list length, item familiarity, and the categorical organization of items.

Reid, Luc. (1990, September). Young children's difficulty with ambiguous messages: Guessing strategy or comprehension monitoring deficiency? *Journal of Genetic Psychology, 151*, 317-328.

Examines two hypotheses that have been proposed to explain young children's difficulty in detecting ambiguous messages: the comprehension monitoring deficiency hypothesis and the guessing strategy hypothesis. Sixty-four kindergarten and first grade children from middle class family backgrounds were assigned to an informed group, whose members had been shown the inadequacy of the guessing strategy, or to an uninformed group. All children acted as listeners for 16 trials (8 with informative messages and 8 with ambiguous ones). They were then asked to select the appropriate referent picture from three choices or to pick a card displaying the referent. Children also were instructed to indicate their degree of confidence in their choices by placing the chosen card in one of three boxes, depending on whether they were very sure, not quite sure, or unsure of their choice. Three dependent variables were considered: number of correct choices, degree of certainty, and response latency. Neither of the two hypotheses was fully supported. Informed children were not more adept in their listening behaviors than noninformed children, and all displayed some ability in monitoring their comprehension, as shown by their greater certainty and their lesser response latency on informative trials.

Sadoski, Mark, & Quast, Zeba. (1990, Fall). Reader response and long-term recall for journalistic text: The roles of imagery, affect, and importance. *Reading Research Quarterly, 25*, 256-272.

Examines readers' responses to journalistic texts by securing spontaneous ratings of imagery, affect, and importance, and investigates the readers' long term recall of these texts in relation to their ratings. Subjects were 54 female undergraduate students who were randomly assigned to one of the three rating categories. Materials included three articles selected from current issues of *Newsweek, Sports Illustrated*, and *National Geographic*. Students were given the three articles with directions for completing the task. Ratings of each paragraph in each article were completed using a scale of 1 (low) to 5 (high) to indicate the degree of mental imagery evoked, the degree of affect evoked, or the degree of importance to the article as a whole. Sixteen days later, students were asked to recall the specific part of each article that was most memorable to them and to explain why. Mean response ratings were tabulated and correlational analyses were conducted. Results indicated that imagery ratings, affect ratings, and paragraph length were significant overall predictors for long term paragraph recall; importance was not. In addition, imagery was consistently the highest rating for the six most frequently recalled paragraphs, closely followed by affect. Students spontaneously mentioned affect as the predominant subjective reason for their recall. The structure of reader response and the relations among imagery, affect, and importance in journalistic text were found to be different from those found previously for stories, although imagery and affect were persistently and significantly correlated as with stories.

Perkins, Kyle, & Brutten, Sheila R. (1988, December). An item discriminability study of textually explicit, textually implicit, and scriptally implicit questions. *RELC Journal, 19*, 1-11.

Studies how background knowledge affects item discriminability in the assessment of ESL students' reading comprehension. Subjects were nonnative speakers of English at a large, midwestern university. On the basis of performance on the TOEFL, the group was found to be beyond the introductory level of proficiency (level 1) and included 28 at level 2, 28 at level 3, and 57 at level 4. Reading comprehension was assessed by three separate multiple-choice exams appropriate for the levels of instruction. The questions from each reading comprehension test were categorized as textually explicit, textually implicit, or scriptally implicit on the basis of the question/answer relations. An item discriminability index was computed for each item by using the point biserial correlation procedure which yielded correlation coefficients between item responses and total scores. This analysis revealed that there were significant differences in the three categories of items with respect to item discriminability. As classes of items, the textually explicit and scriptally implicit items did not meet the minimum criterion of item discriminability, that is, have an average point biserial correlation of .25. In general, those items which were heavily dependent on background knowledge did not exhibit good item discriminability.

YOCHUM, NINA. (1991, March). Children's learning from informational text: The relationship between prior knowledge and text structure. *Journal of Reading Behavior, 23*, 87-108.

Examines the effects of two levels of prior knowledge (high and low) and two types of text structure (attribution and comparison) on the recall and question performance of fifth graders of average reading ability. Subjects were 90 fifth graders from three private Catholic schools in each of two cities in two states. Reading ability was determined by district-administered, standardized achievement tests. The mean comprehension test scores were the 72nd and 70th percentiles for the two groups, with a range from the 25th to the 99th percentile. Subject selection was also based on performance on a researcher-designed pretest of pupils' knowledge of two cities in the two states. All selected subjects had high knowledge of the cities in their home state and low knowledge of the cities in the other state. Subjects were randomly assigned to one of eight experimental conditions. Each subject read one of two informational passages (high prior knowledge passage or low prior knowledge passage) that was presented in one of two text structures (attribution or comparison). These passages were four pages in length (823 to 894 words) and presented three categories of information: city location, growth, and important industries. Dependent measures were a written free recall and 32 multiple-choice comprehension questions. The measures were designed so that both qualitative and quantitative effects of children's recall and comprehension of the three categories of text information could be examined. Separate analyses were conducted for the recall and comprehension question measures. Results indicated that prior knowledge had a greater effect on question performance than on recall performance. More specifically, prior knowledge enhanced only the recall of one section of the test information (growth). There was a facilitative effect for the comparison structure on children's recall of one section of text information (city location). However, there was no demonstrated effect for the text structure on question performance. The results suggest that the effect of prior knowledge and text structure on children's comprehension performance may vary depending upon the task, the information to be learned, and other reader factors such as ability.

FORTNER, BETTY HOLMES, & HENK, WILLIAM A. (1991, Winter). Effects of issue-related attitude on readers' comprehension and judgments of unbiased text. *Reading Research and Instruction, 30*, 1-16.

Examines how issue-related attitudes influence readers' comprehension and retention and recall of information presented in an unbiased text. Ego involvement, prior knowledge, time of test, and purpose for reading were variables under study. Data were obtained from 42 undergraduate students participating during regularly scheduled classes. Subjects attended a university near a large nuclear power plant. All completed an attitude inventory toward nuclear power, an ego involvement scale, and a prior knowledge assessment. Subjects in favor of nuclear power were compared with those who opposed it on a set of multiple-choice questions and a set of open-ended judgment questions given in immediate and delayed conditions. No effect of issue-related attitude was noted for low-level data. When open-ended questions required subjects to make summative text-based decisions about the issues, attitude-consistent responses were noticed in immediate but not in delayed recall. Qualitative analysis of subjects' responses to open-ended questions in immediate recall suggested antinuclear subjects were more skeptical in their comments. Persons in the antinuclear group offered more reasons not stated in the text for their positions in answering open-ended questions and more personal reasons in their responses.

ALEXANDER, PATRICIA A., & KULIKOWICH, JONNA M. (1991, June). Domain knowledge and analogic reasoning ability as predictors of expository text comprehension. *Journal of Reading Behavior, 23*, 165-190.

Analyzes the role domain knowledge, analogic reasoning ability, and interactive knowledge play in the comprehension of expository text. Data from three experiments involving sixth graders (Experiment 1), high school students (Experiment 2), and college undergraduates (Experiment 3) were examined via regression and discriminant analysis procedures. The dependent variables of study were students' scores on expository passages on topics in human biology/immunology prepared in two versions: with and without support analogy. The independent variables were subjects' performance on multiple-choice tests of human biology/immunology (domain knowledge test), figural analogy items from the Advanced Progressive Matrices (analogic reasoning test), and analogy problems composed of human biology/human immunology terms (interactive knowledge test). Results showed that the variables predicting performance on the nonanalogic and analogic versions and the variables discriminating between above average and below average performers differed across the grade levels with less integration of content knowledge and analogic reasoning ability occurring for college students.

DIXON, FELICIA A., & GLOVER, JOHN A. (1990, July). Another look at number signals and preview sentences. *Bulletin of the Psychonomic Society, 28*, 287-288.

Examines the effect of number signals and preview sentences on the recall of text material. Subjects were 62 junior and senior high school students who read a 24-paragraph essay in their regular classroom. Each essay contained three preview sentences and three sets of number signals. Four essay conditions were assembled: (1) no signals (control), (2) preview sentences only (preview condition), (3) number signals only (number signal condition), and (4) both preview sentences and number signals (combined condition). Subjects were assigned randomly to one of the four conditions. Students read at their own pace and completed a free-recall posttest. Subjects who read a passage in the combined condition recalled significantly more signal-relevant information than did subjects in a number signals only, a preview sentence only, or a control condition. The effectiveness of signals is discussed in terms of encoding and retrieval effects and in terms of how these devices guide reader attention.

REYNOLDS, RALPH E.; SHEPARD, CHARLENE; LAPAN, RICHARD; KREEK, CYNTHIA; & GOETZ, ERNEST T. (1990, December). Differences in the use of selective attention by more successful and less successful tenth-grade readers. *Journal of Educational Psychology, 82*, 749-759.

Determines whether tenth grade readers were able to effectively use selective attention strategy (SAS), whether differences occur for more versus less successful readers in SAS, and whether student awareness of when and how to use SAS played a significant role in distinguishing successful from less successful readers. Forty-five tenth graders were classified as more successful readers (n=25) and less successful readers (n=20) using the NDRT and teacher ratings in Experiment 1. SAS proposes that readers devote extra attention to processing text elements that are perceived as important and thus these are learned better. In Experiment

1, a text (36 pages) was divided in 24 sections of approximately 33 words each and was edited to contain only one type of information. Questions were inserted every four pages to manipulate the text importance. Results revealed that both groups of students focused their attention on the segments that contained information relevant to the inserted questions, but that successful readers were more metacognitively aware of the reason for the inserted questions than the less successful readers. In Experiment 2, 28 less successful readers and 39 more successful readers were divided into a conceptual task group or a perceptual task group. A different text was divided in 83 segments and edited to contain one type of information (perspective of homebuyer, perspective of the burglar, and no task-relevant material). All subjects read the text. The perceptual task group was tested on a list of 48 words relevant and irrelevant to the text read. The conceptual task group was tested on 15 analogies as well as the word list. Results indicate that both groups allocated more reading time to text items that were important to their assigned perspectives than to items not important. Less successful readers outperformed successful readers on the perceptual identification task but did less well on the conceptual identification task. Both groups increased the ratio of conceptual to perceptual attention as they moved from control to target items.

GARROD, SIMON; O'BRIEN, EDWARD J.; MORRIS, ROBIN K.; & RAYNER, KEITH. (1990, March). Elaborative inferencing as an active or passive process. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 16*, 250-259.

Attempts to extend understanding of elaborative inferencing. First, reanalyzed were data from one author's previous study that suggested that readers generated elaborative inferences only when a text contained characteristics that virtually eliminated the possibility of an inference being disconfirmed. In addition, an experiment was conducted that varied both the presence/absence of an anaphoric relation between a target word and its prior mention in the text and the explicitness of the prior mention. These studies focused on eye movements, and the primary dependent variable in the experiments was the gaze duration on the target word. Passages were constructed to mention an antecedent either implicitly or explicitly and to present an anaphoric target noun phrase or a nonanaphoric target noun phrase in the final sentence of the passage. Subjects were adult members of a university community who were paid to participate in the study. In general, the reanalysis of existing data and examination of new data suggested that the different text characteristics manipulated (a strong biasing context or a demand sentence) may have produced different types of elaborate inferencing. It appeared that a biasing context resulted in a passive form of elaborative inferencing, involving setting up a context of interpretation. On the other hand, the presence of a demand sentence seemed to encourage the reader to actively predict a subsequent expression. In addition, it was suggested that evidence for either type of inference would be apparent only with anaphoric materials.

ACKERMAN, BRIAN P., & MCGRAW, MEGAN. (1991, June). Constraints on the causal inferences of children and adults in comprehending stories. *Journal of Experimental Child Psychology, 51*, 364-394.

Examines factors at encoding and retrieval that may be informative about differences in the constraint on causal inferences for children and adults. Factors that affect concept accessibility were manipulated systematically in the five experiments in this study. Second and fifth graders and college students listened to stories containing an early goal sentence and a later inconsistent outcome. Encoding factors included the presence or absence of clues about the role of an object concept in the outcome, the separation of clue and outcome, and whether the object concept was mentioned explicitly or only implied. Retrieval factors were manipulated simultaneously, and included whether one or two inferences were probed, whether an inference was probed first or second, and the qualitative overlap of clue and probe information. The results showed consistent encoding x retrieval interactions, with inferences reflecting weak encoding constraint varying with retrieval support. In addition, the effects generally decreased with grade. The results demonstrated the importance of encoding and retrieval interactions in interpreting developmental differences in story inferences and supported a specific retrieval model.

DEGROOT, ANNETTE M.B., & VAN DER PAL, FRED. (1989, October). Causal linking during text comprehension. *Psychological Reports, 65,* 379-384.

Studies how readers relate sentences causally during the reading process. Subjects were 30 students from the University of Amsterdam. Each subject read 40 stories via computer: 10 stories within each condition, 2 causal and 2 noncausal. Each story comprised 10 to 12 sentences with 1 test sentence which, given the narrated story, described either a natural character reaction (causal) or an unexpected reaction (noncausal). The times for reading test sentences were registered. A comparison of mean reading times indicated causal conditions were read significantly faster than noncausal conditions.

CRAWLEY, ROSALIND A., & STEVENSON, ROSEMARY J. (1990, May). Reference in single sentences and in texts. *Journal of Psycholinguistic Research, 19,* 191-210.

Conducts four experiments to study the comprehension and production of reference terms in both sentences (Experiments 1 and 2) and texts (Experiments 3 and 4) using a sentence completion task. In Experiments 1 and 2 the use of a sentence-level strategy (subject assignment) was assessed. In Experiments 3 and 4 the use of a text-level strategy (topic assignment) also was investigated. Participants included both public school students (age 14) and university students. Overall, the results showed that participants referred to subjects more than to objects when both comprehending and producing pronouns. This was apparent in both the tasks involving isolated sentences and the tasks involving the same sentences embedded in text, regardless of the presence or absence of gender cues. There also was an influence of topic on both the choice of referent and the type of reference term used. However, the choice of reference term was affected by the number of potential antecedents in the preceding text. Overall, the results suggested that the sentence subject was a salient item in working memory. This salience was increased when the sentence subject was the textual topic. In addition, it appeared that the presence of a pronoun in a text triggered a specific strategy to assign the pronoun to the (salient) sentence subject.

ZABRUCKY, KAREN. (1990, Summer). Evaluation of understanding in college students: Effects of text structure and reading proficiency. *Reading Research and Instruction, 29,* 46-54.

Uses an error detection paradigm to examine the ability of 54 college students to evaluate their understanding of three selections of expository text. Students read passages containing sentences varying in referential cohesiveness and looked for textual problems. They completed a performance measure where they recorded the inconsistent sentences and a verbal report measure rating the degree of passage understanding after reading. Students detected more inconsistent sentences when they were referentially cohesive. Good readers detected more inconsistencies in one of the three conditions than in the others. Students rated passage understanding high even when they failed to detect the problems. There were more illusions of knowledge for one condition than for others, and slow readers experienced more illusion on one version than on others.

GLINER, GAIL S. (1991, March). College students' organization of mathematics word problems in terms of mathematical structure vs. surface structure. *School Science and Mathematics, 91,* 105-110.

Examines whether mathematical structure or contextual or surface structure relations are more important for solving word problems and whether students' perceptions of the problems based on mathematic structure change after solving or attempting to solve the problems. Subjects, 64 elementary education students enrolled in a required mathematics course, completed 13 problems. Subjects were divided into five groups and asked to sort problems based on mathematical structure, context, question form, and common units of measurement, and to give the criteria they used in sorting. Eleven mathematics faculty members also sorted the problems. All subjects were then given a randomly ordered list of problems and asked to first solve and then to sort them into groups based on mathematical structure. Data were put into two matrices for before and after solving, and problem organization was investigated in terms of successful and unsuccessful problem solvers. Data matrices were aggregated into four groups. Hierarchical cluster analysis compared the organization of problems with each group. Highest coefficient of correlation to the hypothesized matrix was for context, with question form and mathematical structure producing the lowest coefficient to the hypothesized matrix for question form and the matrix for mathematical structure. After solving, the relation between sorting based on mathematical structure and sorting of the faculty increased. Subjects seemed to recognize the mathematical structure after solving the problems. Solving the problems may have helped them see relations.

BEAN, CAROLYN; FOLKINS, JOHN W.; & COOPER, WILLIAM E. (1988, December). The effects of emphasis on passage comprehension. *Journal of Speech and Hearing Research, 32,* 707-712.

Examines the effects of stressing noun phrases on listening comprehension of discourse text. Subjects were 84 college undergraduates enrolled in an introductory psychology course. Subjects heard taped readings of 12 expository passages, each containing 12 noun phrases of various types (proper nouns, dates and numbers modifying common nouns, and common nouns). In the experimental conditions, target noun phrases were stressed; in the control conditions, they were not. Multiple-choice questions assessed understanding and memory of the 12 noun phrases in terms of their meaning in the discourse text. ANOVA procedures applied to the data resulted in a significantly larger mean score for selection of correct response choices that had been stressed as compared to incorrect response choices that had been stressed or response choices that were not stressed.

CASTEEL, CLIFTON A. (1990, Winter). Effects of chunked text-material on reading comprehension of high and low ability readers. *Reading Improvement, 27,* 269-275.

Studies the effects on reading comprehension of presenting text in chunks, or phrases. The sample included 50 eighth graders assigned to either a high or low ability reading group on the basis of their performance on school-administered reading achievement tests, the CAT and CTBS. Using stanine scores, 26 students were assigned to the low ability group (scoring at the 4th stanine or below) and 24 were identified as high ability readers (scoring above the 4th stanine). Test materials were four passages of 1,700 words taken from a reader written at the eighth grade level of difficulty. Two of the passages were presented in traditional form and two were retyped to present the text in chunks. Each subject read the four test passages (two traditional, two chunked) and answered 10 multiple-choice, literal questions following each selection. Data were collected and analyzed in terms of number of correct questions scored on test passages. Analysis of effects, using a dependent measure t-test, revealed that the overall mean score increase of seven points observed with the chunked material was significant. Further analysis revealed that this finding was due to a significant effect of chunked material on test performance by low ability readers only. The difference between tests on traditional and chunked material for high ability readers was not significant.

TYLER, ANDREA, & NAGY, WILLIAM. (1990, July). Use of derivational morphology during reading. *Cognition, 36,* 17-34.

Tests for the use of syntactic and semantic information from morphologically complex and simple words in determining sentence meaning. Subjects included 76 tenth graders and 47 eleventh graders, deemed good and poor readers on the basis of reading scores on the Test of Aptitude and Proficiency. Pairs of sentences were constructed which differed only by derivational suffix in target words. Two paraphrases were constructed for each sentence, one matching the meaning and one containing a syntactic mismatch. Subjects were presented with 12 sets of syntactic sentence types with four sentence sets per group. Each target sentence was followed by four paraphrases. Fewer lexical errors were found for suffixed words than for nonsuffixed words; more syntactic errors were found for suffixed versus nonsuffixed words. Suffixed words were associated with the greatest numbers of errors for all ability levels. The authors conclude that their findings offer evidence supporting morphologically organized models of the lexicon.

JONZ, JON. (1989, June). Textual sequence and second-language comprehension. *Language Learning, 39,* 207-249.

Examines the constraint on comprehension that derives from the order in which the sentences of a text are arranged, and the interaction of that constraint with text-specific prior knowledge. Four cloze tests were administered to undergraduate (n=246) and graduate (n=240) native speakers of English and to undergraduate nonnative speakers (n=238) at three universities. One test passage was a loosely organized set of descriptive facts. A second test was based on the chronological account of a psychological experiment. The third and fourth tests were scrambled versions of the first two. Prior to the administration of the tests, half of the subjects were allowed to read the entire intact sequentially ordered text before completing the cloze test derived from it. Using MANOVA, all main effects were significant: under all conditions for all students, scrambled texts were harder to comprehend; in both text formats and prior-knowledge conditions, native speakers scored significantly higher than nonnatives; and cloze scores were highest for students who read the uninterrupted passage before the cloze test. For the native speakers who read the simple collection of facts, textual sequence and topic-specific knowledge did not contribute significantly to comprehension; however, for all subjects who read the chronological account, variation in the text's naturally occurring sequence and the interaction of that sequencing with the reader's access to topic-specific prior knowledge became an important factor in comprehension. Nonnative speakers could capitalize on the prior knowledge achieved by reading intact text only when the subsequent cloze tests were encountered in the same order as the intact text. These findings are interpreted as nonnative text boundness.

NELSON, GAYLE, & SCHMID, THOMAS. (1989, September). ESL reading: Schema theory and standardized tests. *TESOL Quarterly, 23,* 539-543.

Investigates whether improved reading comprehension skills, acquired through using passages on native culture, transfer to improved performances on reading passages and standardized reading tests. Subjects were 44 Egyptians studying English as a second language in intermediate level classes at the American University in Cairo. Two experimental classes with 12 students in each were compared with three control classes with a total of 20 students. The two experimental classes received eight weeks of reading instruction based on Egyptian or Arabic culture readings, including short stories, folktales, and current affairs. Control classes read passages on American culture from a reading text. Teaching methods, techniques, and goals were consistent between groups. Subjects were pre- and posttested with alternate forms of the SDRT, Level Brown. The experimental classes demonstrated a significant increase in reading comprehension from pre- to posttest; the control classes did not improve significantly. Using t-tests for independent measures, the average improvement of the experimental group was significantly better than the average improvement of the control group: the average grade equivalent scores on the SDRT improved from 4.6 to 6.1 for the experimental classes and from 4.4 to 4.6 for the controls.

Ackerman, Brian P.; Spiker, Kathy; & Glickman, Ilene. (1990, September). Children's sensitivity to topical discontinuity in judging story adequacy. *Developmental Psychology, 26,* 837-844.

Reports the results of three studies conducted to determine whether children are sensitive to topical discontinuity in judging story adequacy. Second and fifth grade children and college students listened to stories containing an action sequence involving a premise, a set of filler actions, and an outcome. Topical discontinuity was manipulated by including fillers that were continuous with the outcome, or that described both discontinuous actions and a discontinuous character. In addition, titles and instruction were varied. Results of the three experiments revealed that all readers, including the second graders, were able to monitor stories for topical discontinuity. Furthermore, participants showed increasing sensitivity to topical discontinuity with grade whether they were or were not instructed to look for problems in stories. It was also noted that readers' sensitivity to topical discontinuity varied with instruction and title.

Ittzés, Kata. (1991, February). Lexical guessing in isolation and context. *Journal of Reading, 34,* 360-366.

Attempts to assess the importance of lexical knowledge in reading comprehension among ESL students in a secondary school in Hungary. The 33 subjects came from five different years, but each was nearing the end of the third year of secondary education as well as the third year of English, and all were from the same school. Two tests were given: a lexical test using 42 isolated words and phrases taken from a passage in the students' English textbook, and the complete passage with the same words underlined in context. Lexical guessing was considerably better in the context situation. When students were divided into three groups based on their scores, the highest third left fewer blanks in the contextual tests than in the list tests, while the lowest group tended to leave similar numbers of blanks in both tests.

Rossi, Jean Pierre. (1990, December). The function of frame in the comprehension of scientific text. *Journal of Educational Psychology, 82,* 727-732.

Designs a study investigating the impact of schema aids, in particular knowledge of the problem frame, in problem-solution text. The sample consisted of 100 children enrolled in the last year of French elementary school (fifth grade) and randomly selected from four classes in four schools. Pupils were presented with two texts, one as a pretest and the other as a posttest; each text was slightly over 200 words in length and consisted of five paragraphs. Children were administered versions of the text without annotation, with indication of the nodes of the frame (three frame conditions were presented), or with the macrostructure underlined. A frame was designated to be a structure within text that is not rigidly defined but contains stable headings or nodes that occur in all problem-solution texts. Pupils read the text, wrote a summary, and took a five-item comprehension test. Pretest comprehension scores and the summary were used to match subjects who were assigned to one of the five conditions. Significant improvement was found for good comprehenders and good summarizers only when they were given macrostructure aids. Poor comprehenders and poor summarizers showed gain from all aids.

Walczyk, Jeffrey J. (1990, September). Relation among error detection, sentence verification, and low-level reading skills of fourth graders. *Journal of Educational Psychology, 82,* 491-497.

Explores the relation among low-level reading skills, sentence verification, and error detection in fourth grade readers through two studies. In the first experiment, 54 fourth graders were administered measures of decoding skills (20 unfamiliar words), speed of semantic memory access (through a categorization task), verbal working memory span (in a memory probe procedure), literal text comprehension (using a Sentence Verification Technique, or SVT) and high-level text comprehension, or a strategic reading measure (using an error detection paradigm). A three-way ANOVA, computed on the error detection scores, revealed that the main effect for error explicitness was significant. These results were consistent with the view that error detection, especially that involving implicit errors, represents a form of strategic behavior not engaged in by all readers. SVT test performance was correlated with low-level reading subcomponents. Error detection, however, was uncorrelated with all other measures. For the second study, 37 fourth graders were administered the error detection task and a researcher-designed test of inferencing while reading. Each child's most recent ITBS Vocabulary and Comprehension subtest scores were also collected from school records. Results of correlational analysis revealed that the subjects' error detection was best predicted by their tendency to generate inferences while reading. Overall, the data suggested that although literal text comprehension is dependent on low-level reading processes, strategic reading competence reflects the reader's tendency to go beyond literal information in text.

BEAN, THOMAS W.; SEARLES, DENISE; & COWEN, STAN. (1990, October/December). Test-based analogies. *Reading Psychology, 11*, 323-333.

Studies the impact of an author-supplied analogy on high school students' comprehension of biology text. Students were randomly assigned to either experimental or control conditions. Students in the experimental condition read a passage comparing an enzyme to a key that fits only one lock. Students in the control condition read the passage without the analogy. There was no significant difference in comprehension of major ideas between the two groups following reading. On a passage difficulty measure, where students rated the passage from 1 to 5, students did not perceive the passage without the analogy to be more difficult than the passage with the analogy. The researchers suggest the need for overt teacher explanation of how to use analogies in concept learning.

BAECHLE, CATHY L., & LIAN, MING-GON JOHN. (1990, August/September). The effects of direct feedback and practice on metaphor performance in children with learning disabilities. *Journal of Learning Disabilities, 23*, 451-455.

Determines the effect of direct feedback and practice on metaphor performance of 52 children with learning disabilities and investigates the relations between metaphor performance of children with learning disabilities and demographics such as age, sex, grade level, reading level, and special education program. Subjects were screened with a pretest consisting of a short story, a picture, and four possible nonliteral interpretations of a metaphor. Subjects were randomly assigned to treatment groups on the basis of pretest scores. Experimental group subjects received four stories with direct feedback and practice followed by 10 stories which they read on their own. Control groups completed work independently, without direct feedback and practice. A posttest of four stories was similar in direction to the pretest. Significant differences in accurate metaphor responses were found between the two groups during the treatment phase ($p < .01$) and during the posttest ($p < .05$). Subjects in the experimental group had higher percentages of accuracy on metaphor tasks. Significant differences were found in percentages of accurate responses on metaphor items between pretest, treatment, and posttest. Metaphor performance was significantly related to grade level and reading level but not to sex, CA, or type of special education program for either group.

BAKER, LINDA. (1989, September). Developmental change in readers' responses to unknown words. *Journal of Reading Behavior, 21*, 241-260.

Examines factors affecting the likelihood that readers will recognize failures of word comprehension and the basis by which they judge the disruptiveness of an unknown word to sentence comprehension. In Experiment 1, 30 third and 30 fourth grade skilled and less-skilled readers read and evaluated the comprehensibility of 16 short paragraphs containing nonwords that varied in number of syllables (1 vs. 3) and syntactic form class (noun vs. adjective). Third graders were more likely to identify the longer nonwords as problematic than the shorter nonwords, but the fifth graders were not influenced by word length. Fifth graders were somewhat more sensitive to the greater disruption in comprehensibility caused by unknown nouns relative to unknown adjectives. In a second task in Experiment 1, and in Experiment 2 (which included adults as well as third and fifth grade average readers), subjects evaluated the relative comprehensibility of pairs of sentences in which the nonwords contrasted in number of syllables, syntactic class, or both. Whereas the younger readers were more likely to focus on word length in their judgments of comprehensibility, the older readers were more likely to focus on meaning. The results, according to the investigator, have implications for research and instruction in comprehension monitoring and vocabulary acquisition.

KLETZIEN, SHARON BENGE. (1991). Strategy use by good and poor comprehenders reading expository text of differing levels. *Reading Research Quarterly, 26,* 67-86.

Identifies the strategies used by good and poor comprehenders reading expository text of varying levels of difficulty. Subjects included 48 tenth and eleventh grade students of average verbal ability. The sample included 24 good comprehenders selected at random from students who scored above the 75th percentile on the CTBS, and 24 poor comprehenders who were chosen at random from those who scored below the 50th percentile on the same test. In order to identify readers' strategies, subjects were asked to read three passages, one each at their independent, instructional, and frustration levels, which contained 12 one-word deletions, to fill in the blanks, and to go back and explain their thinking processes for determining responses. The passages were approximately 250 words long and were chosen from appropriate high school social studies texts. Presentation order of the three passages was counterbalanced to avoid practice effects. The number of strategies identified and the frequency with which each strategy was used were tallied for each passage. In addition, a score was calculated for total strategy use, which consisted of the number of times any strategy was mentioned. The results indicated that all subjects reported depending heavily on using key vocabulary, rereading, making inferences, and using previous experience in constructing responses for all three passages. In addition, readers used more organizational strategies (recognizing passage and sentence structure) on the passage of medium difficulty than on the other two passages. Total strategy use declined for poor comprehenders as texts became more difficult. Good comprehenders also used more strategies on the easiest passage, but their strategy use was the same on the medium and difficult passages. When compared directly, the two groups used the same type and number of strategies on the easy passage, but as the passage difficulty increased, good comprehenders used more types of strategies and used strategies more often than the poor comprehenders did.

BAKER, LINDA. (1989, March). Metacognition, comprehension monitoring, and the adult reader. *Educational Psychology Review, 1,* 3-38.

Details an overview and synthesis of the current literature on metacognition and comprehension monitoring among adult readers. The review focused on three research questions: How do adults conceptualize their own comprehension-fostering and comprehension-monitoring activities? How effectively do adults evaluate and regulate their ongoing efforts to understand? How successfully do adults assess the final products of their comprehension efforts? Related to these areas were questions concerning metacognitive differences as a function of reading ability, academic success, domain expertise, developmental level, and task variables. This review revealed that adults' concepts of how they comprehend and how they monitor their comprehension are variable. In general, those who have more expertise, who are better readers, and who are more successful students seem to have greater awareness and control of their cognitive activities while reading. The research also revealed that adults evaluate and regulate their ongoing efforts to understand, although there is considerable room for improvement in these skills. Finally, the research showed that adults are unsuccessful at assessing how well they have comprehended a text and whether they are ready to take a test on the material. Discussion of recent intervention efforts aimed at enhancing the metacognitive skills of adult readers was also presented.

FRENCH, MICHAEL P. (1990/1991, Winter). Increasing metacognitive awareness through reflective reading. *Journal of Reading Education, 16,* 33-42.

Investigates a method for increasing metacognitive awareness in adult readers through reflective reading. Reflective reading was defined as an interactive method in which the reader actively responds to the text both by writing personal responses in the margins and by writing reflections at the ends of chapters. Twenty-eight university students enrolled in an elementary reading methods course were taught reflective reading through verbal modeling and demonstration. All students then were directed to read *Becoming a Nation of Readers* by first skimming each chapter to underline important parts, and then rereading the text, writing both marginal comments and brief reflective essays following each section. Students' personal reflections focused on early school experiences, memories of teachers, events in family lives, and generalizations about their own future teaching behaviors. A follow-up survey employing a Likert-type scale was designed to assess the students' opinions of the interest, utility, and comprehensibility of the book, as well as the usefulness of the procedures. Students responded favorably to all questions and reported they generally enjoyed completing the assignment. Many reported they enjoyed thinking about prior literacy experiences and that the marginal writing helped them to understand the new concepts. Several others found the writing requirement a time consuming process. Samples of student text responses are included.

HOLLAND, C.A., & RABBITT, P.M.A. (1990, August). Autobiographical and text recall in the elderly: An investigation of a processing resource deficit. *Quarterly Journal of Experimental Psychology, 42A,* 441-470.

Explores alternative explanations of age-related impairments in recall of details from both text and autobiographical events. Subjects were 33 members of Manchester University's Age and Cognitive Performance Research Centre. They constituted four groups identified by age (60s or 70s) and score (high or low) on the AH4 test, a test of overall cognitive resources. Autobiographical recall was investigated by examining free recall of autobiographical events during a first interview, and ability to answer specific requests for additional details in a second interview. Text recall was investigated by examining immediate verbal recall of a text. In all, the study tested relations between nine different measures of performance, and their interactions with CA. Analyses of results revealed that only a measure of the specificity of autobiographical recall was predicted solely by measures of fluid intelligence. Decreased specificity was not a result of faster decay of memory for details, as there was little difference across the lifespan. The resource deficit appeared to affect retrieval and appropriate implementation of detail. It was concluded that elderly subjects with lower ability have decreased Central Executive resources, which leads to poor, or inappropriate, integration of details with central thematic point. On the other hand, verbal ability, which does not decline with age, does continue to contribute to functioning.

IV-23 Research design

SHANAHAN, TIMOTHY, & TIERNEY, ROBERT J. (1990). Reading-writing connections: The relations among three perspectives. In Jerry Zuttell & Sandra McCormick (Eds.), *Literacy theory and research: Analyses from multiple paradigms* (pp. 13-34). Chicago, IL: National Reading Conference.

Reviews research from three major perspectives in order to analyze and compare the underlying assumptions supporting each area of work. The review focuses on whether the differences among the perspectives are due to theoretical disagreements about the nature and meaning of literacy, or are attributed to a lack of attention to other perspectives. Recent theoretical and empirical work associated with three perspectives were analyzed: (1) shared knowledge-shared process, (2) communications, and (3) collaboration. While each perspective had its own purposes and traditions, these differences appeared due to the specifications of the research problems and "historical accident." Studies that use constructs and insights drawn from across differing perspectives are considered to have a greater potential for increasing our knowledge and understanding.

CLARK, SANZA. (1990/1991). Covariance structure modeling: A reanalysis of the International Association for the Evaluation of Educational Achievement's reading data. *Journal of Clinical Reading, 3*, 5-11.

Questions the validity of the multiple regression models previously used and reanalyzes the International Association for the Evaluation of Educational Achievement reading achievement data for England using a covariance structure model. In the earlier analysis, home and family backgrounds were better predictors of reading achievement than school variables. Teacher training, size of class, and availability of specialized teachers had no relation to reading achievement. Only data for 1,452 14-year-olds were reanalyzed. A LISREL VI covariance structural model was used to specify relations among measured variables of educational levels of father, mother, principal, and teacher, and test scores and latent variables of home educational environment, school educational environment, and reading achievement. The strongest relation with student performance on the reading test was the type of program the student was taking, followed by teacher's educational level, teacher's teaching load, and school diversity. Parent educational levels were significantly correlated but the relations were not as strong as for teacher's or principal's educational levels and test scores. Using the LISREL model, school variables significantly accounted for reading achievement scores, with influence greater for the school than for the home. Reanalyses suggested that the earlier IEA analyses seriously underestimated the influence of the school factor in achievement.

V. The teaching of reading

V-1 Comparative studies

ERWIN, BARBARA. (1991, January/March). The relationship between background experience and students' comprehension: A cross cultural study. *Reading Psychology, 12*, 43-61.

Examines within a cross-cultural context if classroom teachers can build background for children before they read and if such instruction can enable culturally different pupils to engage in the reading process similarly to pupils who learn cultural concepts naturally. Subjects were 25 children from a classroom in Oxford, England, and 20 children from a classroom in San Angelo, Texas. All subjects ranged between 7 and 9 years of age. Within a thematic unit format that focused on the cross-culture, children were asked to listen to text from two books: one containing British concepts, and the other containing Texas concepts. Pre- and posttest score comparisons of children in the two groups generally indicated that children comprehend and are able to answer questions pertaining to their own culture and that classroom instruction can improve comprehension of concepts from a different culture.

GREANEY, VINCENT, & NEUMAN, SUSAN B. (1990, Summer). The functions of reading: A cross-cultural perspective. *Reading Research Quarterly, 25*, 172-195.

Examines the common functions of reading from a cross-cultural perspective. In the preliminary study, 8-, 10-, and 13-year-old children from 13 different countries were asked to write essays on why they like to read. Content analysis of the 1,216 essays revealed 10 separate functions of reading. Statements from these essays were used to construct a 50-item scale. In Study 2, this scale was administered to children in 15 countries to determine whether the 10 functions were independent and whether the functions of reading were similar in different cultural settings. Because an insufficient number of questionnaires were returned for the 8-year-olds, their data were excluded from the final analyses. Analysis of the pooled data for 10- and 13-year-olds in all 15 countries (3,050 questionnaires) identified three distinct functions: utility, enjoyment, and escape. Factor analyses of each of the national samples identified similar factors, although in some countries there were two utility factors, one educational and one moral. Most of the national samples also showed either two independent factors for enjoyment and escape or a single enjoyment/escape factor. The findings suggested that for 10- and 13-year-olds reading may serve similar functions across a range of cultural settings.

V-2 Status of reading instruction

CHANCE, LARRY L. (1991, Spring). Reading instruction in Ohio's public high schools: How do you rate? *Ohio Reading Teacher, 25*, 7-11.

Compiles a 15-item questionnaire to determine the current state of reading instruction in Ohio's public high schools. The questionnaire was mailed to 733 public high schools; 537 were returned. Schools were classified into four categories based on whether they were a local, city, exempted village, or county school, and the data are presented under each category. Over half (52%) of exempted village schools reported that less than 5% of their students take a reading class, while the same percentage reported that all students take a reading test during the first year of high school attendance. Only 20% employed a full-time reading teacher. City schools reported that 43% of high schools had full-time reading teachers; for county and local school districts, the figure was 20%. In all instances, about half of the replies indicated that a reading test was administered to all students during the first year of high school. For both exempted village and city schools, the emphasis in the reading programs tended to be about half remedial and half developmental; county/local school districts reported that 40% of their high school reading classes were remedial in nature and 60% were developmental.

MAZUR-STEWART, MARIANNE, & DEMEDIO, DWAYNE L. (1990, Summer). Characteristics of midwestern middle grade reading programs: A regional survey. *Ohio Reading Teacher, 24*, 4-13.

Delineates characteristics of middle grade reading programs in schools in six midwestern states. The participating states, selected randomly, were Illinois, Indiana, Minnesota, Missouri, North Dakota, and Ohio. Within each state, one half of the schools containing middle grades were randomly selected, and principals of these 1,084 schools were asked to have a survey questionnaire completed by the teacher responsible for middle grade reading. In total, 682 usable questionnaires were returned, yielding a response rate of 63%. Survey questions focused on the types of reading instruction most emphasized (accelerated, adapted, corrective, developmental, or remedial), instructional approaches (traditional skills or a strategies approach), the focus of comprehension instruction (literal, inferential, reference skills), instructional materials used (basals, computers, or content area instruction), and types of activities applied (sustained silent reading and language experience). Results indicated that typical midwestern middle school reading programs focus primarily on developmental instruction, with little emphasis on remedial or accelerated instruction. Reading programs emphasize a traditional skills approach to reading instruction rather than a strategies approach and center on literal rather than inferential comprehension. The most popular materials used were reading skills textbooks, followed by fiction books, worksheets, and basals. Nearly one-quarter of the programs focused on content area textbooks. Language experience materials and computers were used infrequently. Typical activities included the DRTA, sustained silent reading, writing, and oral reading activities.

AYDELOTT, SABIHA T. (1990, November). The status of secondary reading programs in American-sponsored overseas schools. *Journal of Reading, 34*, 170-173.

Surveys the nature and status of secondary reading programs in American-sponsored Overseas Schools (A/OS). The sample for this study comprised 78 schools from a total of 105 (grades 6 and up) A/OS in 52 countries. A questionnaire sought information addressing the following questions: (a) To what extent do A/OS have secondary programs? (2) To what extent are the secondary programs similar across and within the six geographical regions of A/OS? (3) To what extent are reading specialists and content area teachers involved in A/OS secondary programs? Questionnaires were returned by 60 of the schools. Descriptive statistics compiled from the data indicated only 20% of the responding schools had some form of reading program. Of these, most were remedial or developmental in nature, with the major focus of instruction being skills, whole language, and/or study skills. Programs for reading instruction most often were offered in conjunction with content area courses, with instruction taking place in classrooms or in special reading rooms. A/OS schools were shown to have only a limited number of certified reading personnel. Reading achievement tests were the reported type of evaluation vehicle.

ANDERSON, LORIN W., & PELLICER, LEONARD O. (1990, September). Synthesis of research on compensatory and remedial education. *Educational Leadership, 48*, 10-16.

Reviews research from the past 15 years on compensatory and remedial programs to assess the effectiveness of the interventions in relation to fiscal concerns. Offers recommendations involving program reconceptualization, school integration, and an improved quality of instruction.

COOTER, ROBERT B., JR., & FLYNT, E. SUTTON. (1987, Fall). A survey of reading clinic diagnostic reports: Current trends and practices. *Journal of Clinical Reading, 2*(3), 1-3.

Examines current trends and practices of remedial reading clinics in writing reading diagnostic reports. Twenty-six college and university reading centers were identified through the College Reading Association Clinical Division and asked to respond to a survey regarding reporting practices. All clinics include student background information in their reports, and most centers report on the assessment data gathered. Many reports include rationales for the testing procedures selected. Over half of the clinics include test data on word recognition, comprehension, and reading attitudes/interests. Oral reading, sight words, and reading vocabulary are elements of the assessment data reported in one-third of the sample. The vast majority of the clinical reports provide some type of interpretation of results or summary statements. The most noticeable trend is a move toward simplicity with shorter, less complex, and clearer report writing.

Ehrlich, Myrna; Bader, Lois; Bean, Rita; Hinds, Lillian; Koenke, Karl; Miccinati, Jeanette; Putnam, Lillian; and Welle, Dorothy. (1984-1985). CRA survey of comprehension testing in clinics. *Journal of Clinical Reading, 1*, 14-21.

Surveys remedial reading clinics regarding the methods of assessing reading comprehension. A questionnaire was sent to 34 college and university reading clinics and 2 private clinics in 19 states. The clinics served a variety of populations and were identified through the College Reading Association Clinical Division. Clinics reported providing educational diagnosis (100%) and remedial instruction (97%) as part of their services. The majority of clinics evaluated reading comprehension using a standardized test (74%), although the IRI (31%), teacher-made tests (28%), and cloze (14%) were listed as well. A variety of informal measures were reported. No clinic indicated the use of criterion-referenced measures. While most of the clinics appeared to agree on what was important to assess, there was little agreement as to how to go about doing this.

V-3 Early reading

Pellegrini, A.D.; Perlmutter, Jane C.; Galda, Lee; & Brody, Gene H. (1990, April). Joint reading between black Head Start children and their mothers. *Child Development, 61*, 443-453.

Examines the behaviors of 13 black Head Start children and their mothers within a series of experimental joint reading contexts in their homes. The mean age of the children was 52 months. The researchers' first objective was to examine the extent to which the joint reading strategies used by low SES children varied as a function of text format (traditional narrative and expository books) and more familiar newspaper cartoons and toy advertisements. The second objective was to examine the mothers' effectiveness in facilitating children's comprehension in a literacy task. Parent-child dyads were observed and videotaped in their homes nine times reading text that varied along the two dimensions – genre and familiarity. Mothers' teaching strategies were examined from the transcripts of the videotaped reading sessions. The specific strategies examined were their use of high, medium, and low mental demands, as well as their use of metalinguistic verbs. Children's language was coded as (1) initiation utterances (book-relevant talk), (2) reference to external stimuli (relating a book word to an external referent), and (3) book-relevant responses to mother (answering a book-related question). Results indicated that the traditional expository and the familiar expository text elicited significantly more teaching strategies than familiar or traditional narratives. In addition, children's participation was greater in expository texts than with narrative texts. Further, mothers adjusted their level of teaching to children's level of task competence.

Phillips, Gwenneth, & McNaughton, Stuart. (1990, Summer). The practice of storybook reading to preschool children in mainstream New Zealand families. *Reading Research Quarterly, 25*, 196-212.

Investigates the social practice of book reading in 10 mainstream New Zealand families in which parents read regularly to their 3- and 4-year-old children in their homes. In Study 1, the researchers collected data for one month on the frequency of book reading, the time of day, the participants, and the types of books selected. They found that reading stories was a frequent child-centered event in the homes studied. In Study 2, unfamiliar but similar storybooks were given to the families to read, and the parent-child interactions were recorded and analyzed. Both adult- and child-initiated insertions most often focused on the meaning of the immediate text, particularly on the events and goals of the narrative. Few interactions focused on concepts about print or illustrations. Some changes occurred across successive readings: At first, parents concentrated on making the meaning of the story clear to the children, but later they frequently fostered anticipation and prompted the children to make inferences. The results suggest that children from such mainstream families in New Zealand already have some knowledge of constructing meaning from stories when they enter school.

BALL, EILEEN W., & BLACHMAN, BENITA. (1991). Does phoneme awareness training in kindergarten make a difference in early word recognition and developmental spelling? *Reading Research Quarterly, 26*, 49-66.

Evaluates the effect of training in phonemic segmentation and of instruction in letter names and letter sounds on kindergarten children's reading and spelling skills. Ninety pupils from three urban public schools were randomly assigned to one of three groups. The first group received training in segmenting words into phonemes, as well as training in correspondences between letter names and letter sounds (phoneme awareness group). The second group received only the training in letter names and letter sounds (language activities group). The third group received no intervention (control group). Prior to the intervention, no significant differences were found among groups for gender, age, or race. Pre- and posttests included a phoneme segmentation test, a test of letter-name and letter-sound knowledge, and the Word Identification Subtest of the WRMT. At the time of posttesting, children were asked to read a list of 21 phonetically regular words and to spell a list of 5 words. ANOVA and ANCOVA (with the appropriate pretest as covariate) were used to assess treatment effects. Results indicated that phoneme awareness instruction, combined with instruction connecting the phonemic segments to alphabet letters, significantly improved the early reading and spelling skills of the children in the phoneme awareness group. However, instruction in letter names and letter sounds alone did not significantly improve the segmentation skills, the early reading skills, or the spelling skills of the kindergarten children who participated in the language activities group as compared with the control group.

V-4 Readiness

MORROW, LESLEY MANDEL; O'CONNOR, ELLEN M.; & SMITH, JEFFREY K. (1990, September). Effects of a story reading program on the literacy development of at-risk kindergarten children. *Journal of Reading Behavior, 22*, 255-275.

Investigates the effects of a storybook reading program as one means for literacy development with at-risk children in eight Chapter 1, extended-day urban kindergartens. Children (n=32) in four experimental classes followed a daily program of literature experiences that included reading for pleasure, story retelling, repeated readings of favorite stories, interactive story reading, and recreational reading periods. During the same period of time, pupils (n=30) in four control groups followed the prescribed reading readiness program used in the district, emphasizing letter recognition and letter-sound correspondence. Children were pre- and posttested in September and in May with such measures as a test of ability to retell a story, an attempted reading test, a probed recall test, Concepts about Print, child interview, and CAT. Results of ANCOVA indicated that the experimental groups scored significantly better than the control groups on story retellings, attempted reading of favorite stories, comprehension tests, and on a number of factors in the child interviews. There were no significant differences between the groups on standardized measures of reading readiness.

HAYDEN, RUTH. (1990, Summer/Fall). Playing the literacy game: Experiences in two kindergartens. *Reflections on Canadian Literacy, 8*, 63-68.

Explores the uses of literacy within the free-time activities of two kindergarten classrooms. Each of two kindergartens, identified by supervisors as reflecting either a whole language or traditional skills orientation, were observed over a six-month period for 30 hours. Results of a preliminary Likert-scale questionnaire completed by the teachers confirmed that there were strong differences in their orientation to literacy instruction. Data consisted of field notes, coding sheets, and transcribed audiotapes of classroom observations. Data were inspected to ascertain recurring themes with respect to classroom literacy behavior as well as representative examples of those themes. Interrater reliability for theme identification was 90%, achieved by an independent rater who examined 20% of the data. Two major themes were identified: the child as literacy explorer and the child as literacy prop-seeker. With respect to child behavior, there were more similarities than differences in the search for literacy knowledge, regardless of the teacher's orientation to literacy learning. The findings also suggested that the children found several ways to incorporate literacy into their play.

BALL, EILEEN W., & BLACHMAN, BENITA A. (1988). Phoneme segmentation training: Effect on reading readiness. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 38, pp. 208-225). Baltimore, MD: Orton Dyslexia Society.

Evaluates the effects of phoneme segmentation training on kindergartners' reading readiness ability. Subjects were 90 children determined to be nonreaders on the Word Identification Subtest of the WRMT and who achieved a standard score of at least 78 on the PPVT-R. Subjects were assigned to one of three treatment groups: (1) the phoneme segmentation group, (2) the language activities group, or (3) the no intervention group. Prior to treatment, it was determined that the three groups did not differ significantly in terms of age, sex, race, or PPVT scores, or on pretest scores of the Word Identification Subtest of the WRMT, a phoneme segmentation test, and a letter-sound knowledge test. Children in the phoneme segmentation group met for four 20-minute sessions for each of seven weeks and received instruction in phoneme segmentation, letter names, and sounds. On approximately the same schedule, children in the language activities group received instruction in letter names and sounds as well as additional language awareness activities. Tests administered after treatment once again included the Word Identification Subtest of the WRMT, a phoneme segmentation test, and a letter-sound knowledge test. Another identification test of phonetically regular words was administered only as a posttest. ANCOVA with pretests as covariates and ANOVA procedures applied to the data indicated the phoneme segmentation group excelled over the language activities group and the no intervention group on phoneme segmentation as well as on letter-sound knowledge and both word identification tests.

EDDOWES, E. ANNE. (1990, Fall). Teaching reading in kindergarten: Two contrasting approaches. *Reading Improvement, 27*, 220-223.

Compares a skills-based and holistic approach to teaching reading in two kindergarten classes. Group 1 (n=33) used a commercial phonics-based approach in which recognition of the alphabet and letter sounds were emphasized. Group 2 (n=31) was taught by the same pair of kindergarten teachers during the following year with the curriculum based on key vocabulary work. In both classrooms, children experienced learning centers, daily storytime, and book checkout privileges from the school media center. Although children in Group 1 had little opportunity to write, children in Group 2 had a writing journal and wrote both group and individual books. Results of the Stanford Early School Achievement Tests administered during April in both of the two school years showed no difference between the groups on any language subtest/section. However, teachers reported that the children in Group 2 had more interest in reading and writing, as well as more social interactions related to language learning.

PURCELL-GATES, VICTORIA, & DAHL, KARIN L. (1991, March). Low-SES children's success and failure at early literacy learning in skills-based classrooms. *Journal of Reading Behavior, 23*, 1-34.

Examines low-SES urban children's ways of interpreting traditional skills-based literacy instruction in kindergarten and first grade. Thirty-five randomly selected children from three innercity schools were tested for entering and leaving first grade knowledge of six domains of written language. Their scores on two standardized achievement tests were collected also. Twelve children were randomly selected from this sample for close observation over two years in their classrooms. Qualitative and quantitative analyses based on observations, transcription of audio recordings, artifacts such as workbook pages, results of the pre- and postadministrations of the written language knowledge tasks, standardized test scores, and teachers' informal comments led to the identification of four patterns of success/nonsuccess in literacy development within the classroom context: (1) Independent Explorer children began kindergarten with the big picture of written language and successfully interpreted the skills-based instruction while engaging in numerous self-directed explorations of print; (2) Curriculum Dependent children did not have a big picture of written language from the start and exhibited major mismatches between their understandings and those required by the curriculum; (3) Passive Nonweavers failed to actively construct relations between the many skill activities required of them; and (4) Deferring Learners moved from a knowledgeable active stance to a passive one after confronting mismatches between their knowledge of print and the curriculum.

V-5 Teaching reading – primary grades

ELDREDGE, LLOYD. (1991, Spring). An experiment with a modified whole language approach in first-grade classrooms. *Reading Research and Instruction, 30*, 21-38.

Examines the efficacy of a modified whole language approach on the reading attitudes and achievement of 56 children in three first grade classrooms. Nine of 10 characteristics of whole language programs were implemented in the modified program. In addition, a daily 10- to 15-minute total class systematic phonics lesson was provided. Three first grade classrooms using a basal series were included for comparison purposes. Reading comprehension and vocabulary were assessed using the two subscores on the GMRT; phonics skill was assessed with an 81-item multiple-choice group-administered phonics test. Data on attitudes toward reading were collected from a paper-pencil measure developed by the researcher. Pupils in the modified whole language program made greater gains in reading achievement and in phonics than did pupils in the basal program. Differences in attitude between the two groups were found to be significant.

LIE, ALFRED. (1991). Effects of a training program for stimulating skills in word analysis in first-grade children. *Reading Research Quarterly, 26*, 234-250.

Reports a longitudinal study following about 200 Norwegian children from the beginning of first grade to the end of second grade in order to note the effects of word analysis training programs on their spelling and reading achievement. Ten first grade classes were assigned randomly to two experimental groups of three classes each or to a control group (four classrooms). The first experimental group (n=60) was given training in positional analysis with the purpose of developing skills in identifying, in isolation, the initial, final, and medial sound in spoken words. The second experimental group (n=52), sequential analysis, was given word analysis training the same as for the positional group but training was presented in a sequential order in that children were first trained to identify the initial phoneme of a word and the second and third in order and then to blend them. Control children viewed and discussed illustrations. Training programs included daily sessions of 10-15 minutes in length. In addition to an IQ measure, children were given various measures of metaphonological development at the beginning of the program and again along with reading measures at the end of first and second grades. ANCOVA results indicated that reading scores showed a significant main effect of group, with the sequential group performing significantly higher than the control group at the end of first grade. No other difference reached statistical significance. At the end of second grade, reading score differences between the sequential group and the controls were only marginally significant ($p < .10$). For spelling in first grade, the sequential group had the highest mean score followed by the positional group. No differences in spelling were found between the two experimental groups at the end of grade two, with both scoring higher than controls. Lower IQ children showed the greatest profit from the experimental programs.

PUTNAM, LILLIAN R., & FARBER, FRANCES D. (1986, Spring). Evaluation of oral responses of urban first graders in five different reading programs. *Journal of Clinical Reading, 2*, 18-22.

Asks whether significant differences in oral language production of first grade children participating in different reading programs would appear when given a prediction task. The sample consisted of 164 urban first graders from classrooms using five different reading programs. Children were read a narrative story and asked to predict the ending. The responses were recorded, transcribed, and analyzed by the total number of predictions, the total number of words, the average T-unit length, the average number of T-units, and the average syntactic complexity. There were significant differences among the programs on the number of predictions made and on the average length of T-units. No significant differences were found on the other variables examined.

WILLIAMSON, PETER A., & SILVERN, STEVEN B. (1990, Spring/Summer). The effects of play training on the story comprehension of upper primary children. *Journal of Research in Childhood Education, 4*, 130-134.

Questions whether thematic fantasy play facilitates the development of story schemas for older primary children. The study reanalyzes selected data from an earlier study conducted by the authors. The subjects were 75 children who were over 80 months in age and who scored one standard deviation below the mean of a metalinguistic pretest. Children were divided into a control group ($n=37$) and an experimental play training group that focused on reenacting the story through drama/play ($n=38$). Simple stories designed to reflect story grammar were used as a recall measure during the first and eighth weeks of training. Results suggested that reenactment of stories, or thematic fantasy play, facilitates story recall and helps develop story schemas in older children.

LEACH, DAVID J., & SIDDALL, SUSAN W. (1990, November). Parental involvement in the teaching of reading: A comparison of hearing reading, paired reading, pause, prompt, praise, and direct instruction methods. *British Journal of Educational Psychology, 60*, 349-355.

Compares the relative effectiveness of four alternative tutoring strategies parents applied to beginning readers. Parents and their children from two grade 1 classrooms in two primary schools participated in the study. After excluding parents of children already reading fluently and those children with LD, 40 parents were selected randomly from the available pool and assigned randomly to one of four tutoring methods: Direct Instruction (DI); Paired Reading (PR); Pause, Prompt, Praise (PPP); or Hearing Reading (HR). The sample of children included 26 boys and 14 girls ranging in age from 5.3 to 6.4. Separate training sessions were held for each tutoring group; however, no formal training was given to the HR group who received written guidelines. All reading sessions were conducted by parents in their own homes for a period of 10 to 15 minutes per weekday for 10 weeks. The parents received one home visit and a telephone call to check on their appropriate use of the methods. Parents also were asked to record their tutoring times. Prior to the initiation of the tutoring, the children's skills were assessed on one phonic knowledge test and one reading readiness test. Pre- and poststudy measures of reading accuracy and comprehension were conducted using the *Neale*

Analysis of Reading Ability. The groups were not significantly different in their phonic skills, readiness for reading, reading accuracy, or comprehension at the beginning of the study. An ANCOVA, using pretest scores as the covariate, showed that observed differences were significant between groups at the completion of the study. Specifically, those children whose parents had applied either DI or PR outperformed those subjects whose parents simply heard them read. According to the diaries kept by the parents, the mean time spent engaged in tutoring activities ranged from 10.89 to 11.50 hours during the intervention period. There were no significant differences between groups on the amount of tutoring time.

MORROW, LESLEY MANDEL, & SMITH, JEFFREY K. (1990, Summer). The effects of group size on interactive storybook reading. *Reading Research Quarterly, 25*, 213-231.

Investigates children's comprehension of stories and their verbal interactions during storybook readings in groups of varying sizes. Adults read storybooks to 27 kindergarten and first grade children from five U.S. school districts. Each child heard three stories read in each of three settings: one to one, small group (3 children per group), and whole class (15 children or more). Measures were taken on only the third reading in each setting. Children's questions and comments that focused on story structure, meaning, print, and illustrations were tallied, as well as total comments and total questions. As expected, children who heard stories read in a small group or one to one generated significantly more comments and questions than children in the whole-class setting. On probed and free recall comprehension measures, a repeated measures ANOVA indicated a significant effect for setting. Using a priori contrasts, results revealed that children who heard stories in the small group setting performed significantly better than children who heard stories read one to one, who in turn performed significantly better than children who heard stories read to the whole class. Thus, reading to children in small groups appeared to offer as much interaction as one-to-one readings and led to greater comprehension than whole-class or even one-to-one readings.

ALLEN, JOBETH; MICHALOVE, BARBARA; SHOCKLEY, BETTY; & WEST, MARSHA. (1991, March). "I'm really worried about Joseph": Reducing the risks of literacy learning. *Reading Teacher, 44*, 458-472.

Reports the process of 1.5 years of studying how whole language instruction affected selected elementary children who had been labeled at risk. Three teacher-researchers, currently teaching first, second, and fifth grade, and a teacher educator worked together to define the goals for curricular change, to read extensively, and to clarify their beliefs. Classroom data collection was through teachers' journals, observations by the university researcher, child interviews, children's written work, reading records, and informal interviews with significant people in the children's lives, including each child's university student pen pal. The themes that emerged from the data were related to the importance of engagement with literacy tasks within a supportive community of learners. Although overlapping, the themes are discussed as they relate to the teacher-researchers' view of whole language, including use of whole texts, adult models, real reasons for learning, time for literacy, responsibility and choice, supported risk taking, and belonging. A profile is presented of one of the focal children.

FREPPON, PENNY A. (1991, June). Children's concepts of the nature and purpose of reading in different instructional settings. *Journal of Reading Behavior, 23*, 139-163.

Explores the influence of instructional setting and developmental stage of learning to read on 24 first graders' concepts of the nature and purpose of reading. Subjects were six children drawn at random from a pool of average readers in each of four classrooms, two literature based and two skill based. Children's reading concepts were determined through their responses in structured interviews, their remarks pertaining to several selections of incomprehensible print, and running records of two samples of their oral reading. Findings revealed both similarities and differences among children in the skill-based and literature-based settings. Children from both settings demonstrated high interest in learning and sounding out words. In contrast to the skill-based group, however, the literature-based group demonstrated heightened metacognitive understanding; greater awareness of the use of varied reading strategies; and a view of reading as a meaning-making, language-like process. Children from the literature-based group rejected passages of incomprehensible print significantly more often than children from the skill-based group, and were more apt to use a balance of cues as they read orally. Moreover, while the literature group attempted decoding less often, they were more often successful in sounding out words as compared to the skills group.

MCINTYRE, ELLEN (1990, June). Young children's reading strategies as they read self-selected books in school. *Early Childhood Research Quarterly, 5*, 265-277.

Examines six beginning readers' strategies as they read self-selected texts in the reading center of their first grade, whole language classroom. Observations occurred from the first day of school through February, a time when most of these children were reading conventionally. The talk, actions, and books the children read were documented through observations and audiotaping. Transcriptions of their talk were compared to the actual text of the storybooks. Patterns of reading behaviors that emerged from the data showed a general movement from a focus on pictures to a focus on print, including reading the pictures with story-like language, reading pictures with text-like language, reciting verbatim text, reading the text from memory but with their eyes on the print, reading the text but skipping words, reading the text independently, repeating readings (or reading along), and merely browsing (or flipping through books). The strategies were not developmentally linear across the seven-month period. Rather, they were recursive, as children often used more than one strategy to read one book. Several of the strategies, such as reading the text from memory, were indicative of the contextual environment, including the materials the children read as well as the instruction.

MORROW, LESLEY MANDEL. (1990, Summer). Small group story readings: The effects on children's comprehension and responses to literature. *Reading Research and Instruction, 29*, 1-17.

Investigates the effect of frequent small group storybook readings in school on comprehension scores and the number and complexity of comments and questions from low-SES children. Subjects, all from six classrooms in one urban elementary school, were selected randomly for experimental (n=54) or control (n=54) groups. Experimental and control groups were divided randomly again into 18 groups of three children each. Control children worked with prepared reading readiness materials, including workbooks that focused on visual and auditory discrimination skills. Experimental children listened to stories and were encouraged to ask questions and to make comments about the stories. All groups met once a week for 11 weeeks, with sessions lasting about 20 minutes each. Pre- and posttest measures included taping of questions and comments of children to a book being read to them and an individually administered probed recall comprehension check of the stories. Responses to stories were coded into three major categories: focus on story structure, focus on meaning, and focus on print and illustrations. A one-way ANCOVA was conducted for each of the major categories in the posttest measures: total comments and questions, focus on meaning, focus on structure, focus on print, focus on illustrations, and total comprehension score. Corresponding pretest scores were used as covariates. There was an increase in comprehension and in the number and complexity of questions and comments from experimental children as opposed to controls.

SNIDER, VICKI E. (1990, Summer). Direct instruction reading with average first-graders. *Reading Improvement, 27,* 143-148.

Evaluates the effects of reading instruction provided to average first graders using guidelines and techniques from Direct Instruction Reading. Direct Instruction is a highly structured, code-emphasis approach to reading instruction that teaches auditory skills and explicit phonics. Scores on the ITBS were used to evaluate the effectiveness of the approach. Test scores of children (n=39) who had received traditional basal reading instruction during their first grade year were compared with scores of children (n=27) who received the direct instruction curriculum. There were no initial differences between groups on the Cognitive Abilities Test. Results of the ITBS (administered at the beginning of second grade) indicated that the direct instruction group obtained significantly higher scores in Word Analysis and Spelling. There were no differences between groups in Vocabulary or Reading scores. Both groups' mean scores on all tests were in the average range. The researcher points out that the results argue against the perception that phonics instruction interferes with reading comprehension.

CUNNINGHAM, ANNE ELIZABETH. (1990, December). Explicit versus implicit instruction in phonemic awareness. *Journal of Experimental Child Psychology, 50,* 429-444.

Reports a training study of 10 weeks wherein 42 kindergarten and 42 first graders received instruction in control or experimental conditions to increase phonemic awareness. Those in experimental conditions were taught by either a skill-and-drill approach where the procedural knowledge of segmentation and blending of phonemes was taught or in a metalevel approach that explicitly emphasized the application, value, and utility of phonemic awareness for reading, in addition to teaching the procedural knowledge of segmentation and blending. Subjects completed the appropriate level of the MRAT, Readiness Level, Primer, and Primary; the OLSAT; and three measures of phonemic awareness, a phoneme delection, phoneme oddity, and phoneme discrimination test (Lindamood Auditory Conceptualization Test). Training times were identical for each group, with each session lasting approximately 15 minutes. Instruction was identical in both experimental programs, but differed with regard to the emphasis placed on the relation between phonemic awareness and the activity of reading. Results supported the growing evidence that phonemic awareness is causally related to reading achievement at the beginning stages of reading. While both experimental kindergarten and first grade groups made significant improvement in reading achievement, degree of improvement depended on the type of instruction received, with those first graders in the metalevel approach performing significantly better on a transfer measure of reading achievement than those in the skill-and-drill group.

KLESIUS, JANELL P.; GRIFFITH, PRISCILLA L.; & ZIELONKA, PAULA. (1991, Winter). A whole language and traditional instruction comparison: Overall effectiveness and development of the alphabetic principle. *Reading Research and Instruction, 30,* 47-61.

Compares the achievement of first graders (n=112) whose teachers made a transition from a textbook/skills focus to use of whole language. In addition, the researchers sought to determine whether there would be differences between whole language and traditional basal instruction in end-of-the-year reading, writing, and spelling achievement for children with varying levels of incoming phonemic awareness, reading, and writing. Three whole language classrooms were compared with three traditional classrooms. Data were collected for end-of-year achievement in reading comprehension, vocabulary, phonemic awareness, decoding, spelling, and writing. With classrooms serving as the experimental units, results of both ANCOVA (with incoming reading ability, phonemic awareness, and writing skill covaried) and

ANOVA indicated there were no significant differences between the two instructional programs on any of the variables. Children who were low in incoming reading ability had significantly lower end-of-the-year vocabulary and comprehension achievement than did their high incoming reading ability classmates, regardless of their instructional program. A similar pattern existed for children low in phonemic awareness, whose scores on end-of-year spelling and decoding measures were significantly lower than their high phonemic awareness counterparts. Children who scored below the 50th percentile on the incoming writing pretest in the whole language classrooms had a slightly better chance of catching up with their classmates than did the lower achieving pupils in the traditional program.

Jenkins, Cynthia, & Lawler, Dianne. (1990, Summer). Questioning strategies in content area reading: One teacher's example. *Reading Improvement, 27*, 133-138.

Explores the effects of instruction in six questioning strategies on 28 third grade pupils' comprehension of and retention of science content material. Question strategies investigated were: (1) Question-Answer Relationship (QAR); (2) Directed Reading-Thinking Activity (DRTA); (3) Inferential Strategy; (4) Guided Reading Procedure (GRP); (5) Reciprocal Questioning (REQuest); and (6) Radio Reading. For each week of the eight-week period, a different questioning strategy was implemented. Scores on six pretests and posttests were compared at the end of the period to determine if questioning strategies improved performance on teacher-made tests. Percentage of correct answers increased on the posttest for each of the questioning strategies, with greatest increase after implementing the QAR strategy.

Sudzina, Mary R., & Foreman, Patricia A. (1990, Fall). The use of recorded books in a first grade classroom with Chapter 1 children. *Ohio Reading Teacher, 25*, 7-14.

Hypothesizes that the use of recorded books as a supplement to a basal reader program would positively affect reading achievement for Chapter 1 first grade children. Reading scores on the CTBS of Chapter 1 children (n=13) who used recorded books during the 1988-1989 school year were compared with the scores of Chapter 1 children from two previous years (n=14; n=12) who had not used recorded books. In addition, pupils completed an attitude survey regarding the recorded books program. Results showed no statistically significant differences for groups across years on the reading section of the CTBS. Reexamination of results showed that although pretest scores from each of the three years had similar means, scores were distributed differently. Similarly, the distribution of scores for those children who experienced recorded books showed a higher concentration of pupils above the mean, with top scores reaching levels not attained in previous years. Attitudinal survey data indicated that 76% of the children felt the recorded books were instrumental in helping them learn to read; 92% recommended the method for others.

Von Harrison, Grant, & Branvold, Dwight. (1990, November). Personalized reading materials for beginning readers: An experiment in cross-age tutoring. *Computing Teacher, 18*, 26-27.

Reports the results of fieldtesting a computer software program that allows stories to be personalized with the name of the reader, as well as his or her family, pets, and preferences. Seven fifth and sixth graders were trained for approximately one hour to operate the computer program and enter the personal data from 25 first and 34 second graders. The older children read the questions to the younger children and then entered their answers in the program. The younger children were asked to read the printed versions of their stories and then state their preference for either the personalized version or a nonpersonalized story of comparable difficulty randomly selected by the computer. Results of the reader preference questionnaire revealed that 26 of the 34 second graders preferred the personalized stories, but only 14 first graders preferred the personalized versions. The fifth and sixth grade tutors expressed a high degree of satisfaction with their ability to operate the computer program and to help young children produce stories.

WEPNER, SHELLEY B., & CACCAVALE, PHILIP P. (1991, February). Project CAPER: (*C*hildren *a*nd *P*arents *E*njoy *R*eading): A case study. *Reading Horizons, 31*, 228-237.

Describes the implementation and revision of a parent-child reading program. Six of the district's eight elementary school principals agreed to participate. Volunteer teachers introduced the project to parents. Parent-child participation was on a volunteer basis. Time was to be set aside each day for pleasure reading, with parents and children reading their choice of material. Suggested daily time allotments for reading increased from 10 to 20 minutes from November to May. Teachers both distributed and collected the reading record sheets that recorded the daily amount and type of reading done by parent-child teams. The 200 participating children received both small monthly tokens for returning their Reading Record, as well as a certificate of recognition at the end of the project. A Likert-type attitudinal scale was administered prior to the project's initiation and after its conclusion. Answers to four pupil questions were subjected to a correlated t-test. Results were statistically significant, indicating improvement in children's attitudes toward themselves as readers. Pupils indicated they chose to read mostly books; a few intermediate pupils reported reading magazines and newspapers. Similarly, parents recorded that they read mostly books; however, some parents reported newspaper, magazine, and technical manual reading. Recommended changes for keeping administrators informed, simplifying record-keeping, preparing parents for involvement, and staff development are included.

V-6 Teaching reading – grades 4 to 8

FISHER, CHARLES W., & HIEBERT, ELFRIEDA H. (1990, September). Characteristics of tasks in two approaches to literacy instruction. *Elementary School Journal, 91*, 3-18.

Examines the efficacy of literature-based and skills-oriented approaches to literacy instruction in grades 2 and 6 through a literacy task perspective. Four classrooms at each grade level, two classified as literature-based (LB) and two as skills-oriented (SO), were observed for one week each. Data sets included videotapes, field notes, teacher interviews, and student work samples collected by three observers. Analysis of the videotapes yielded a total of 180 identified literacy tasks, with tasks defined by identifying the objectives or product toward which the students were working. Tasks were analyzed on seven dimensions, including their subject-matter focus, duration, type of product, format of activities, degree of product specification by children, cognitive complexity, and task size. Distributions of literacy task characteristics were markedly different in the two approaches. When compared with literacy tasks in the SO approach, tasks in the LB approach at both grade levels tended to be longer, larger, more complex, and to provide more opportunities for pupils to influence the content and processes of their literacy tasks.

DRESSEL, JANICE HARTWICK. (1990, December). The effects of listening to and discussing different qualities of children's literature on the narrative writing of fifth graders. *Research in the Teaching of English, 24*, 397-414.

Investigates the effects of reading aloud children's literature of differing quality on the writing of 48 fifth grade children of different abilities. The children were randomly assigned by reading ability (as determined by the GMRT) to one of two eight-week treatments. Treatments consisted of the opportunity to listen to one of two mystery series read aloud. The series were determined to be of greater and lesser quality by professional raters who judged the stories on selected literary and genre characteristics. Both treatment groups were identical in that pupils were read to with minimal interruption, followed by a program designed to encourage them to examine the literary and genre characteristics of the texts from the author's perspective. Pre- and posttest detective stories written by the children were evaluated by independent raters, using the same criteria as had been used to rate the quality of the literature. Ratings of the children's stories were analyzed using MANCOVA. Two separate analyses were conducted, one for the characteristics of literary quality and one for the characteristics of genre quality. Stories written by children who heard and discussed higher quality literature were rated significantly different on traits related to literary quality and genre development than were stories written by children who heard and discussed lesser quality literature. There was no effect for reading ability.

COOTER, ROBERT B.; JOSEPH, DENNIS G.; & FLYNT, E. SUTTON. (1986, Spring). Eliminating the literal pursuit in reading comprehension. *Journal of Clinical Reading, 2*, 9-11.

Determines the effects of eliminating all literal questions on student literal and inferential comprehension. The sample included four groups of third and fourth graders (n=33) reading on grade level in their respective basal series. The study was conducted for five months, during which time all groups participated in the regular basal reading lessons. However, in the experimental groups (n=2) the teacher only posed inferential and higher level questions. To ensure this, the teacher manuals were altered and all literal questions and activities were masked. In addition, these classrooms were observed twice a week. All groups were pre- and posttested using the SDRT. The no-literal-questions group performed significantly better on inferential comprehension subtests than did the control group. There were no differences between the two groups on literal comprehension.

MURNANE, YVONNE M. (1990, July). Writing as a thinking tool: How writing can foster metacognition. In Betty Anderson (Ed.), *Teacher education for literacy around the world* (pp. 61-64). St. Cloud, MN: Organization of Teacher Educators in Reading.

Examines the impact of various expository and expressive writing activities on students' metacognitive abilities. Subjects were 19 eighth grade students in a language arts class. According to the ITBS, subjects ranged in ability from the 14th percentile to the 99th percentile. In February and May, the subjects were asked to write a good and a bad summary of an eighth grade expository passage and explain what made each respective summary good or bad. They also were asked to describe what they were thinking as they completed each task. Between February and May, teachers actively engaged subjects in expository writing activities. Results of data analysis supported an increase in students' metacognitive abilities over the span of the study. In general, students reported that a good summary entailed writing the main idea as concisely as possible, while a poor summary entailed focusing on details. Some students expressed a concern for grammar and spelling inadequacies.

MUTH, K. DENISE. (1991, March). Effects of cuing on middle-school students' performance on arithmetic word problems containing extraneous information. *Journal of Educational Psychology, 83*, 173-174.

Assesses the effect of cuing students to the possibility of extraneous information in word problems on problem-solving performance. The 60 eighth graders involved were assigned randomly to one of three versions of a 14-item word-problem test: (1) no extraneous information, (2) extraneous information uncued, and (3) extraneous information cued. Total correct answers, setups, and formulas were used in assessing performance. Significantly more problems were solved correctly in the no extraneous information version and in the extraneous information cued version than in the extraneous information uncued version. The difference between the first two was not significant.

BECK, ISABEL L.; MCKEOWN, MARGARET G.; SINATRA, GALE M.; & LOXTERMAN, JANE A. (1991). Revising social studies text from a text-processing perspective: Evidence of improved comprehensibility. *Reading Research Quarterly, 26*, 251-276.

Revises a fifth grade social studies textbook based on a cognitive processing perspective and notes the effects of the revisions on pupils' comprehension. Four passages from the textbook, each dealing with an event or issue related to the development of the American Revolution, were revised to create causal/explanatory text. The original versions were presented to 40 fifth graders in November, while the revised versions were given to 45 fourth graders in May of the same school year. Pupils were tested individually and free recall and open-ended questions were used to assess comprehension of the passages. Qualitative as well as quantitative analyses were used in analyzing recall protocols and answers to questions. Pupils reading the revised text were able to recall more material and answer more questions correctly than were pupils using the original text. The qualitative analysis indicated that pupils using the revised versions were better able to explain the actions in the text that moved the chain of events forward.

SMITH, JOHN A. (1990, Fall). The effects of teaching reading with historical fiction on elementary students' learning of historical concepts: A pilot study. *Contemporary Issues in Reading, 6*, 13-17.

Reports the result of a pilot study designed to test the notion that the use of historical fiction for reading instruction would enhance children's learning of historical concepts. Over a 12-week period, a class of 36 fifth graders read the novel *Johnny Tremain* in place of the regular basal reader. Pupils were engaged in whole class, small group, and individual activities related to the book. Two pre/post measures were used to assess subjects' learning of historical information from the novel: First, alternate forms of a 56-item cloze test were constructed from passages in the class's social studies text. Second, a pre/post oral free-recall task was used to measure both the quality and quantity of subjects' knowledge of the American Revolution (the period addressed in the novel). An open ended "debriefing" survey gathered reactions to the novel study during reading class. Subjects' individual interviews were tape-recorded and transcribed for analysis. The data from the pre/post cloze tests indicated that, after studying the historical fiction, subjects were significantly better able to read their social studies text with understanding. When the data were examined by pretest scores, gains were concentrated among the poorer readers. Data from the oral free recall measure suggested that after studying the historical novel, subjects were able to recall twice as much information about the American Revolution. Gains in knowledge were made by pupils of all ability levels. Responses to the novel study, as determined by the debriefing interview, were positive.

ARMBRUSTER, BONNIE B.; ANDERSON, THOMAS H.; ARMSTRONG, JAMES O.; WISE, MARSHA A.; JANISCH, CAROLE; & MEYER, LINDA A. (1991, March). Reading and questioning in content area lessons. *Journal of Reading Behavior, 23*, 35-59.

Looks at how content area textbooks are used by teachers and pupils and what kinds of questions teachers ask during textbook-based lessons. Fourth grade teachers (n=9) from two school districts who participated in an ongoing longitudinal study were the sample for this investigation. Twelve 20-minute science or social studies lessons were selected for analysis. The lessons were transcribed from audiotapes and field notes and parsed into reading events, resulting in 512 coded questions. Questions that were repeated or that elicited no pupil response (rhetorical) were excluded. Results of the study indicate that children do not spend much time reading the textbook during content area lessons. When pupils did participate in reading it was conducted orally (87%). The teachers asked a large number of questions (approximately 1.3 per minute), many of which were repeated or rhetorical. The majority of questions (90%) were teacher generated and explicit in nature. There were no instances of direct instruction in how to read the textbook. Further analysis of question-answer relations, answer sources, and the purposes of rhetorical-type questions are provided.

Brent, Rebecca, & Noland, Ronald G. (1991, Spring). A comparison of directed reading activity and mapping and their effects on recall of text. *Journal of Reading Education, 16*, 30-42.

Compares the effectiveness of the DRA and mapping over a three-day instructional period. Thirty-five fifth graders and 47 sixth graders scoring between the third and seventh stanine on the SAT were randomly assigned to three treatment groups: DRA, mapping, or control. All groups were introduced to selected vocabulary words, and a purpose-setting question was given. Control group subjects read and wrote answers to comprehension questions; DRA subjects read and discussed the questions in a teacher-led session; and mapping group subjects received a partial map which they completed after reading. Four days later, subjects wrote what they recalled from the passage. A MANOVA followed by univariate ANOVAS revealed that treatments had different effects at the different times of testing and an interaction for both main ideas and details. For immediate testing, means for the DRA and mapping groups were significantly higher ($p < .001$) than for the control group. For delayed testing, the mean for the DRA group was significantly higher ($p < .05$) than for control or mapping groups. The DRA facilitated recall of main idea immediately and after delay, and details immediately, but not over time. Mapping facilitated immediate recall of main ideas but not over time, and mapping did not promote recall of details.

Dole, Janice A.; Valencia, Sheila W.; Greer, Eunice Ann; & Wardrop, James L. (1991). Effects of two types of prereading instruction on the comprehension of narrative and expository text. *Reading Research Quarterly, 26*, 142-159.

Compares the effectiveness of two different prereading instructional strategies: a teacher-directed strategy, and an interactive strategy where teachers help pupils activate their prior knowledge through an extended discussion of what the students already know about the topic of an upcoming text. Subjects were 63 fifth graders grouped into homogeneous classes for reading instruction. Subjects were chosen from three classes containing the largest number of pupils whose scores fell in the fourth, fifth, or sixth stanines on the SAT. Three narrative and three expository passages were chosen from fifth grade basals not normally used by these children. Story maps and lists of critical ideas were used to develop 12 open-ended questions for each narrative passage and 10 questions for each expository passage. Pupils also completed paper and pencil measures of prior knowledge for each passage read. Treatment spanned two days, and all groups were exposed to all treatments. The teacher-directed strategy was the most effective treatment for producing increased passage specific comprehension, followed by the interactive strategy group, and then the control group. There was no interaction of treatment with genre, prior knowledge, or with prior knowledge and genre together. The main effect of treatment was constant over narrative and expository passages and across varying levels of prior knowledge. There were significant differences between the comprehension scores on the three expository texts and a significant group by treatment interaction.

Reutzel, D. Ray, & Hollingsworth, Paul M. (1991, January/February).

Reading time in school: Effect on fourth graders' performance on a criterion-referenced comprehension test. *Journal of Educational Research, 84*, 170-176.

Explores the impact a program of regular and sustained self-selected reading has on improving a selected set of reading skills measured by a criterion-referenced reading skill test. Subjects were 61 fourth grade pupils attending lower to middle class suburban elementary schools. Subjects were randomly assigned to three groups: reading only, skills only, and reading/skills. Instruments used for the study included the comprehension subtest of the CTBS and a researcher-designed Specific Comprehension Skills Test (SCST) with items representing details, drawing conclusions, finding the sequence, and determining main ideas. Skills-only teachers taught 30 half hour lessons dealing with their specific skill treatments. Reading/skills teachers taught 15 different skills lessons, with each lesson taught over two days. Fifteen minutes of each 30-minute lesson were spent on skills, and 15 minutes were spent on free reading. Reading-only teachers devoted 30 minutes each day to pupil-selected reading. At the conclusion of the 30-minute experimental reading period, all children returned to their intact classrooms for an additional 30 minutes of reading and skills lessons as outlined in district guides and basal materials. The SCST was administered to all at the completion of the study. MANCOVA analysis revealed a significant gain from pretest to posttest for all three groups. No significant differences, however, were found among the three treatment groups in gains in specific reading comprehension skills. All forms of instruction seemed to contribute equally to gains in specific reading comprehension skills.

V-7 Teaching reading – high school

MEMORY, DAVID M., & UHLHORN, KENNETH W. (1991, February). Multiple textbooks at different readability levels in the science classroom. *School Science and Mathematics, 91*, 64-72.

Discusses research and expert opinion on the status of textbooks in science instruction and suggests one alternative to the use of single-textbook instruction. It was noted that many experts advise against a textbook-centered approach to science instruction and others warn that that approach cannot succeed with poor readers. However, since most teachers prefer a textbook, they, along with many publishers, have chosen to use simplified textbooks to accommodate the range of readers in their classrooms. These books of lowered readability levels may have made science more accessible to moderately weak readers but also may have contributed to the decline in reading and science achievement among more able students during the 1970s. Recommended alternatives to instruction based on a single textbook are offered, including the use of multiple textbooks. It was noted that supportive research on multilevel approaches to textbook use in science instruction is lacking; however, suggestions were presented for establishing a multilevel program.

CRONIN, HINES; MEADOWS, DAVIS; & SINATRA, RICHARD. (1990, September). Integrating computers, reading, and writing across the curriculum. *Educational Leadership, 48*, 57-62.

Evaluates the use of semantic mapping and the use of computers in content coursework to improve reading, writing, and thinking skills in nine schools in one school district. In each school, principals, teachers, librarians, and central office personnel worked together to develop effective ways to deliver mapping, writing, and thinking skills across content areas. Goals for the program included students' ability to conceptualize and map major and minor ideas gained through reading, to use varying map structures to display these related ideas, to synthesize the ideas into well-conceived essays, and to use word processing to extend their composing in the content subject. Students learned to construct visual maps using the Thinking Networks for Reading and Writing, a highly structured computer program for representing the relation of ideas sequentially, thematically, or in a classificatory manner. Teachers then found ways to incorporate semantic mapping into their content presentations, modeling the three types of map constructions. Students were led to organize maps of their reading in groups and individually. Maps served as the organizers for students' compositions. Results of state assessment over a four-year period for eleventh graders in reading and for written essays showed statistically significant improvement in reading and writing, with the greatest improvement occurring during the first year of the district's full implementation of semantic mapping. After two full years of implementation, 99% of the eleventh graders passed the reading comprehension test and 100% passed the written essay.

DURRANT, CAL; GOODWIN, LYNNE; & WATSON, KEN. (1990, December). Encouraging young readers to reflect on their processes of response: Can it be done, is it worth doing? *English Education, 22*, 211-219.

Examines the effects of increasing adolescents' awareness of their own response strategies during reading. Subjects were two groups of nine students aged 15 years. Within stages throughout the investigation, students were asked to: (1) individually read a short story and give a running commentary pertaining to it on audiotape, (2) individually write a composition on their reactions to the story, (3) engage with their peers in a small group discussion about their reactions to the story, (4) write a follow-up composition about the reading while considering earlier written and spoken responses, and (5) discuss with a small group of peers and a teacher response strategies used in previous stages. Findings at various points in the investigation illustrated the importance of encouraging students to learn how to reflect about their processes of response. Implications are suggested for instruction stemming from the investigation.

REESE, DIANE J. (1990, December). The effect of training in expository text structure on reading comprehension. *Florida Reading Quarterly, 27*, 15-17.

Examines the effect of training in awareness and use of expository text structures on 32 ninth graders' comprehension performance on a standardized test containing expository passages. Students were pretested with the comprehension subtest of the NDRT, and then randomly assigned either to an expository text structure training group or to a teacher-monitored study hall. Students in the training group received direct instruction in awareness and use of five expository text structures (simple listing, ordered listing, comparison/contrast, cause/effect, and problem/solution). Students in the control group read and studied various academic subjects. At the completion of the five-week training period, the NDRT, Form F, was administered. One month after testing, follow-up questionnaires were administered to both experimental and control group subjects to gain information about their awareness and use of expository text structures as a comprehension strategy. Using the pretest raw scores as the covariate, the results of ANCOVA were not significant. A supplemental post hoc analysis using a paired *t* test yielded significant gains for the total sample from pretest to posttest. Results from the questionnaire indicated that subjects in both groups had limited prior knowledge of the topics of the posttest passages.

CURRIE, HELEN. (1990, December). Making texts more readable. *British Journal of Special Education, 17*, 137-139.

Investigates the effects of using simplified texts in the study of science and humanities on the performance of readers in mixed attainment groups. Interested departments that taught mixed attainment groups in the lower secondary years were identified in three comprehensive schools. Target materials for teacher-identified units of study were simplified by the researcher. Modifications to simplify text included shortening sentences, replacing unfamiliar words with common ones, replacing metaphorical phrases with literal phrases, and clarifying the purpose of digressions. Assessment materials accompanying these texts also were simplified. To examine the effects of the simplified materials on subjects' content learning, their unit test performance was compared to that of a corresponding group studying the same content in unmodified texts. The experimental group was administered the simplified version of the test; the other group was given the original, unmodified test. Teachers compared the range of scores resulting from the two administrations. In each of the three schools, the teachers reported that the marks of the higher achievers were consistently high and that those of the low achievers were significantly improved.

SIMMERS-WOLPOW, RAY; FARRELL, DANIEL P.; & TONJES, MARIAN J. (1991, May). Implementing a secondary reading/study skills program across disciplines. *Journal of Reading, 34*, 590-594.

Reports changes in a high school curriculum over a four-year period when a secondary reading/study skills program was implemented to alleviate students' deficiencies in reading and study skills. Low test scores on the CTBS in reference skills, low student perceptions on the High School and Beyond Survey, and teacher and administrator concerns mandated change. Curriculum writing teams defined 20 reading/study skills to be taught in all curriculum areas. A Ferndale Reading/Study Skills Survey was developed to solicit student input on their own needs. Data were used for staff development and development of materials. Self-report data suggest growth in students' confidence in their reading/study skills over the period of the program.

V-8 Teaching reading—college and adult

SIMPSON, MICHELE L., & NIST, SHERRIE L. (1990, October). Textbook annotation: An effective and efficient study strategy for college students. *Journal of Reading, 34*, 122-129.

Tests the effectiveness of the textbook annotation strategy for improving examination performance and the amount of study time required. Sixty students enrolled in four developmental learning strategies courses were randomly assigned to one of two study treatments: textbook annotation or preview-question. All instruction, assignments, and tests were integrated into the normal classrooms over a three-week period. Teachers were provided with preplanned lesson scripts. Students took weekly multiple-choice tests and kept track of their study time. The preview-question group spent 77% more time studying than the annotation group. The annotation group scored significantly higher on the tests than the preview-question group and were more efficient in terms of study time.

LEGGETTE, EVELYN J. (1986, Spring). A study of an effective communication skills program for college freshmen. *Journal of Clinical Reading, 2*, 28-31.

Investigates the effects of a college communication skills program for 200 incoming freshmen. Students with ACT scores of 14 or below were assigned to one of two sections of the semester-long course. The ACT scores served as the pretest and were compared with end of the semester English grades and overall GPA of students participating in the course and 200 randomly selected freshmen from the previous year. Results of the comparisons indicated that students who had received instruction in communication skills had significantly higher English grades and overall GPA than those who did not participate.

PENA-PAEZ, ALBERTO, & SURBER, JOHN R. (1990). Effect of study strategy skill level on test performance. *English Quarterly, 23*, 31-39.

Compares the performances of college students who are expert and novice at summarizing and underlining. In addition, the researchers compared the efficacy of summarizing and underlining as study techniques in preparation for a test. Sixty-four students from a two-year technical college were preassessed for their ability to underline and summarize expository prose. Subjects were then divided into skilled and unskilled users of each of the strategies and requested to use one of the strategies while studying a passage in preparation for a test. Students diagnosed as unskilled in either of the two study strategies were skilled in the use of the alternate technique. An additional group of students who read the passage but neither underlined nor summarized served as a control. A 2 (Summarize/Underline) × 2 (Skilled/Unskilled) ANOVA (excluding the read-only control) yielded a significant main effect for strategy type. There was no main effect for skill level, nor was there a significant interaction. Post hoc analysis revealed that most of the strategy effect was due to the superiority of the skilled summarizers. Skilled summarizing produced better test performance than unskilled summarizing, both skilled and unskilled underlining, and a read-only control. There were no significant differences among the latter four conditions.

CADET, LORRAINE PAGE, & HEERMAN, CHARLES E. (1990, Fall). Teaching reading, mathematics, and writing in a college reading laboratory. *Reading Improvement, 27*, 192-195.

Explores the effectiveness of a developmental program for teaching reading, mathematics, or writing through a college reading laboratory. Subjects were 40 students seeking admission to a teacher education program at a midwestern university. The Preprofessional Skills Test in Reading, Writing, and Mathematics (PPST) was used as a pretest along with several informal measures of specific skill needs. Two instructors, one trained in reading and writing education and the other in mathematics, provided each student with direct instruction for a minimum of 15 hours in each skill area in which need was displayed. Thus 40 students received assistance in reading, 30 in mathematics, and 20 in writing. Pre/posttest comparisons were analyzed using t-tests for related measures. Gains were significant for each of the three areas.

BERNARD, ROBERT M. (1990, September). Using extended captions to improve learning from instructional illustrations. *British Journal of Educational Technology, 21*, 215-225.

Investigates two types of extended captions, each intended to differentially increase learning from illustrated content. Subjects were 143 students enrolled in a junior college nursing program in western Ontario. Subjects read verbal text with or without illustrations that were accompanied by two, one, or no caption(s). Caption types used in the experiment were: descriptive captions, which reiterated illustrated content, and instructive captions, which told subjects how to best approach learning from the illustrations. In no case did illustrations reiterate the main body of the text. As additional control conditions, nonillustrated text was presented with or without descriptive captions. Learning was assessed on two separate measures: one which evaluated learning from illustrations alone and one which evaluated learning from verbal text alone. Subjects also were administered the comprehension subtest of the NDRT to control for variability in reading ability. ANCOVA results revealed both caption conditions were equally superior to the illustration alone condition. However, the effects of the two caption types were not additive. Subjects in the illustration plus descriptive caption condition outperformed those in the descriptive caption condition alone. Neither illustrations nor captions negatively affected memory of accompanying text.

DUNSTON, PAMELA J., & RIDGEWAY, VICTORIA G. (1990, Fall/Winter). The effect of graphic organizers on learning and remembering information from connected discourse. *Forum for Reading, 22*, 15-23.

Explores the influence of graphic organizers on college students' comprehension and retention of written discourse. Subjects were 59 freshmen enrolled in three sections of an eight-week-long study strategy course. Subjects were enrolled in the course by choice or because they were deemed at risk academically through Scholastic Aptitude Test scores and high school Grade Point Averages. Subjects were randomly assigned to one of three treatment groups. Group 1 was given an organizer detailing the superordinate and subordinate information contained within a lengthy selection that was to be read and studied. Group 2 was given a partially constructed organizer detailing the superordinate information within the selection, and was asked to fill in the subordinate information as they read and studied the selection. Group 3 was given the selection without an organizer and simply asked to read and study it. Upon completion of their assignments, all subjects took part in a free recall task and completed a 20-item multiple-choice test of information found in the selection. Free recall information was assigned by the researchers to five categories that emerged from the data. A one-way ANOVA and means contrast analyses revealed no significant difference between groups on the multiple-choice test performance. Categorized information revealed two rudimentary forms of organization used by subjects during the recall process: a random listing of sentences, or a listing of phrases. More sophisticated organizational strategies included: grouping information through comparison and contrast, organizing text structure and related details, or graphically displaying information. Subjects in treatment groups 1 and 2 generally related information graphically.

SMITH, BRENDA; HYND, CYNTHIA; & VALERI-GOLD, MARIA. (1990, Fall). Increasing reading test performance: Modeling metacognitive strategies to poor college readers. *Research in Teaching in Developmental Education, 7,* 5-11.

Looks at the effects of modeling metacognitive strategies for 122 college readers who performed poorly on standardized reading measures. Subjects were divided into three groups: (1) metacognitive strategies modeled (think-alouds), (2) metacognitive strategies taught but not modeled, and (3) practice on passages and questions (control). Instruction took place for 20 days, using reading passages and comprehension questions. Metacognitive strategies focused on predicting, using imagery, relating, self-monitoring, and self-correcting. Analysis of SDT posttests revealed the modeling group as receiving the highest scores, followed by the control group. The group that received instruction in metacognitive strategies with no modeling yielded the lowest scores. Discusses the importance of active learner engagement through the application of strategies.

MEALEY, DONNA L. (1990, Fall/Winter). An analysis of the value of preteaching content area vocabulary to college developmental readers. *Forum for Reading, 22,* 24-30.

Reviews studies investigating the efficacy of preteaching content area vocabulary to older students. Argues that the value of preteaching vocabulary is questionable for older students due to limitations in background knowledge and context and that such methods discourage independent word learning. Instructional implications for college developmental population are drawn.

V-9 Instructional materials

DURKIN, DOLORES. (1990, September). Reading instruction in kindergarten: A look at some issues through the lens of new basal reader materials. *Early Childhood Research Quarterly, 5,* 299-316.

Examines six basal series for their ability to match kindergarten pupils' needs with instruction and to determine the extent of phonics instruction. Six kindergarten manuals (K) were analyzed for their flexibility in content and pacing. Three levels of manuals, K, Readiness (R), and Preprimer (PP) also were examined to determine whether the use of the PP level is dependent on phonics taught at the K and R levels. Examination of teacher-dependent instructional procedures and exercises led to the conclusion that manual recommendations structure instructional practices for whole group rather than for instruction based on pupil needs. Analysis of 68 lessons dealing with word meanings revealed that no preinstruction diagnosis was encouraged, thereby assuming that the prescribed words were ones all kindergartners needed to learn. The difficulty of the word to be learned had no effect on suggestions for instruction in that every lesson appeared to have an identical format. Analysis of the three levels in relation to phonics instruction suggested that the K manuals are not essential for later use of PP materials. Lack of coordination was noted among phonic skills and across the three levels.

HIEBERT, ELFRIEDA H., & PAPIERZ, JACQUELINE M. (1990, September). The emergent literacy construct and kindergarten and readiness books of basal reading series. *Early Childhood Research Quarterly, 5*, 317-334.

Examines the early childhood components of four basal reading programs from the perspective of an emergent literacy view of how young children become literate. Two of the programs were from a meaning-oriented tradition, and two from a decoding-oriented tradition. Activities in pupil and teacher books of both kindergarten and readiness materials were analyzed for two purposes: (1) to ascertain the match between basal activities and the emergent literacy construct, and (2) to discern differences between meaning- and decoding-oriented series in implementation of literature and decoding activities. Analyses showed that conventional readiness activities like visual, shape, and color discrimination dominated kindergarten books, and that auditory discrimination activities dominated readiness books. Emergent literacy activities were not prominent in either pupil or teacher books. Although the series did not differ in the amount of attention devoted to either literature or decoding, descriptive analyses of comprehension and decoding instruction showed that the meaning-oriented series included more high quality literature for teacher read-alouds, whereas decoding-oriented series allowed more connections between letter-sound correspondences and word identification. The implications of assumptions about children's reading acquisition that underlie these materials as well as adaptations in materials that implement the emergent literacy construct are discussed.

STOCKDALE, SUSAN R. (1991, January). A study of the frequency of selected cue words in elementary textbook word problems. *School Science and Mathematics, 91*, 15-21.

Analyzes the word problems in three elementary mathematics textbooks for grades 3 through 6 to determine the frequency of selected cue words. The textbooks chosen represented the three best selling series of 1985. Word problems were listed by page and number and were sequentially separated into groups of five. One problem in each group was then randomly selected for examination. A list of 24 possible cue words was compiled by informally analyzing a sample of word problems for words or phrases that generally indicate a specific arithmetical operation. Frequencies of the occurrence of cue words were tabulated and presented as percentages of problems containing a cue word for each series at each grade level. Results indicated that the range of word problems containing a cue word was 20% to 50%, and most textbooks were at the lower end of this range. In addition, there was substantial variation in the use of cue words among the textbook series studied. The series varied in percentage of problems containing cue words, number of cue words used, and percentage of problems containing a specific cue word. There also was some variation in which operation(s) were associated with a specific word. Only two words, *percent* and *equal*, were associated with only one arithmetical operation. It was suggested that these results strengthen the argument against the use of the cue word strategy in elementary mathematics instruction.

BARROW, LLOYD H. (1990, December). Elementary science textbooks and potential magnet misconceptions. *School Science and Mathematics, 90*, 716-720.

Surveys elementary science textbooks to determine which concepts about magnets are presented in various series, how the concepts are presented, and whether misconceptions appear in the texts. Ten elementary science series were secured, and the tables of contents, indexes, and glossaries were searched to identify all content related to magnets. Appropriate pages were tabled, all material was read, and a detailed analysis of each concept in each text was completed. This entailed categorizing the concept according to the format of presentation (prose, laboratory investigation, or illustration) and assessing the correctness of the information. The analysis revealed that a total of eight distinct concepts were included in the 10 elementary series, and 7 of the 10 series addressed all eight concepts. Each series addressed at least one magnet concept in grades 1 to 3 and again in grades 4 to 6. The amount of coverage was highly variable, ranging from 1-19 pages in primary level books and 2-26 pages in intermediate level texts. Almost all of the concepts were introduced as prose. The exceptions were the concepts regarding uses and types of magnets that were more frequently introduced through illustrations. One possibility of misconception was suggested by the limited definition of pole presented in some texts. In addition, inconsistencies in the definition of pole from grade level to grade level within several of the textbook series was identified as another source of misconception.

MEYER, LINDA A. (1991). Are science textbooks considerate? In Carol Minnick Santa & Donna E. Alvermann (Eds.), *Science learning: Processes and applications* (pp. 28-37). Newark, DE: International Reading Association.

Analyzes four science textbook series for content and characteristics associated with considerate text. The sample was two elementary science textbook series (grades 1 to 5), one fourth grade science textbook, and one fifth grade science textbook. The textbooks represented four different publishers and had copyright dates ranging from 1974 to 1985. Content presentation was determined by focusing on domains common across grade levels, tallying related activities, and coding teacher questions. Major differences were found among the four series based on the number of content domains and the number of vocabulary words targeted for instruction. Lecture/discussion activities were noted more often for the early elementary grades. Overall, the four series were judged considerate. Incomplete background knowledge and difficult illustrations were the two areas listed as problematic.

SCHUMM, JEANNE SHAY; LEAVELL, ALEXANDRA G.; & HAAGER, DIANE S. (1990, Fall/Winter). Strategies for considerate and inconsiderate text instruction. *Forum for Reading, 22*, 31-43.

Presents a content analysis of 46 college reading and study skills texts published between 1980 and 1989 to identify strategies for maximizing the use of considerate text features in content area textbooks and for compensating when considerate text features are absent. The Postsecondary Reading Textbook Inventory, a 23-item instrument with two superordinate categories (textual aids, content), was used in rating books. Imperfections found in the texts were classified into three categories: (1) omissions; (2) vague, incomplete strategies; and (3) strategies lacking a research base. While a listing of strategic enablers that aid in extracting salient information from the text resulted, it was also noted that many of the strategies included were vague, incomplete, and lacking an instructional component and research base.

CHAD[illegible]CK, CLIFTON B. (1991, March). On the management of change: How not to develop textbooks. *Educational Technology, 31*, 7-15.

Examines a major textbook production project implemented in a Central American country and aimed at designing and preparing textbooks for six primary grades in four subject areas. Observations are discussed in terms of 14 problems that led to the project's failure.

Afflerbach, Peter, & Walker, Brian. (1990, Summer). Prediction instruction in basal readers. *Reading Research and Instruction, 29*, 26-45.

Analyzes prediction instruction in three basal reader series at grades 1, 3, and 5. Instructional materials were examined in relation to four parameters of prediction instruction: use of prior knowledge in prediction, source of prediction, locus of prediction, and monitoring of prediction. Differences in prediction instruction within and between basal reader series were investigated using a series of 24 chi-square analyses. Significant differences in the four parameters were found between the basal reader series and within the basal reader series at different grade levels. All series contained instructional sessions which sought to engage readers' prior knowledge, but all series did not provide situations where the reader would use prior knowledge. Several series required readers to select rather than to generate predictions. All basals required pupils to generate predictions before and during reading, and two series required predictions after reading the text. The basals did not consistently encourage readers to monitor their own predictions. Difficulties in judging internal consistencies and theoretical bases were found across the range of materials.

Simons, Herbert D., & Elster, Charles. (1990, November/December). Picture dependence in first grade basal texts. *Journal of Educational Research, 84*, 86-92.

Determines the degree to which narrative text is picture dependent in first grade books from four basal reading series and in eight easy to read trade books. Chosen for analysis were two meaning emphasis basals, one code emphasis basal, and one combined literature and decoding emphasis basal. The easy to read trade books chosen were written by popular children's authors. Each character, location, and object alluded to by the text or the picture was coded as picture independent or as one of two categories of picture dependent: picture only (no text reference), and picture dependent text. Also counted were story references to gestures found in pictures. Percentages computed for each category for each basal indicated that different series vary in picture dependence from the beginning to the end of first grade, but at different rates. The two meaning emphasis basals analyzed are considerably more picture dependent than the two emphasizing sound-symbol relations. Picture dependence and references supported by gestures in pictures decrease throughout the year in all basals, albeit at different rates. Literature as found in trade books is more picture independent than texts with controlled vocabulary.

Alvermann, Donna E. (1990). Content reading strategies: Some caveats. *Reading in Virginia, 15*, 17-21.

Reviews a previous study on the effectiveness of selected comprehension and vocabulary strategies recommended in six content reading-methods textbooks and offers caveats for the findings that many of the strategies methods texts advocate are not as effective as desired.

V-10 Teaching – grouping/school organization

Finn, Jeremy D., & Achilles, Charles M. (1990, Fall). Answers and questions about class size: A statewide experiment. *American Educational Research Journal, 27*, 557-577.

Reports end of grade 1 results of a large-scale experiment in Tennessee comparing the effects of class size on achievement in mathematics and reading. A sample consisting of 15 innercity schools, 8 urban schools, 15 suburban schools, and 38 rural schools participated; the final sample included 328 kindergarten classes and about 6,500 children. Each participating school had at least three kindergartens. Within each school, entering kindergarten children were assigned at random to one of three class types: small, with an enrollment between

13 and 17; regular, with an enrollment of 22-25; or regular (22-25 pupils), but with a teacher aide assigned to work with the class. Teachers were assigned randomly to classes. The SATS in reading and mathematics were administered in the spring of kindergarten and first grade years. Additional measures given included the Basic Skills First (BSF) tests, a set of curriculum referenced tests developed by the state, and the Self-Concept and Motivation Inventory (SCAMIN). Race and class size effects were found in all geographic areas, with small classes having a statistically significant advantage over large classes for reading and mathematics. Teacher aide classes gained as much as small classes on SAT reading measures. Evidence was found that minority students' performance was enhanced in small classes, especially on the BSF tests.

SLAVIN, ROBERT E. (1991, February). Synthesis of research on cooperative learning. *Educational Leadership, 48*, 71-82.

Synthesizes the results of research in elementary and secondary schools in which cooperative learning has been compared with traditionally taught controls studying the same objectives over at least a four-week period or longer. Cooperative learning research focusing on the following four models is reviewed: Student Team Learning variations, Jigsaw, Learning Together, and Group Investigation. In all, some 67 studies were identified in which achievement effects of cooperative learning were evaluated. Of the 67, 41% found significantly greater achievement in cooperative learning classes as opposed to control classes, 37% found no differences, and one study found that controls outperformed experimentals. It is noted that the elements of group goals and individual accountability must be present if cooperative learning is to be effective. When these two elements are present, achievement effects of cooperative learning tend to be consistently positive. Effects are essentially equally positive for all levels of student achievement, at all grade levels, and in all types of schools (rural, urban, suburban). In addition to positive achievement, positive effects of cooperative learning are found for self-esteem, intergroup relations, acceptance of academically handicapped, attitudes toward school, and ability to work cooperatively.

ARBLASTER, G.R.; BUTLER, C.; TAYLOR, A.L.; ARNOLD, C.; & PITCHFORD, M. (1991, April). Same-age tutoring, mastery learning, and the mixed ability teaching of reading. *School Psychology International, 12*, 111-118.

Investigates whether a mastery learning based reading program leads to superior performance for an experimental group as compared to a control group which received a structured language approach. Also examined was whether same-age tutoring, a crucial component of the mastery learning program, is equally effective with high and low performing children. An experimental group of 27 children and a control group of 14 children were tested at the beginning and end of the school year using the Burt Word Reading Test. Analysis of pre- and posttest scores using independent t-tests revealed that children receiving the mastery learning based reading approach significantly outperformed the control group. Analysis of top and bottom half gain scores of the experimental group using independent t-tests and the Wilcoxon Rank Sum Test showed that they were not significantly different.

PARATORE, JEANNE R.; FOUNTAS, IRENE C.; JENKINS, CAROL A.; OUELLETTE, JANET M.; & SHEEHAN, NANCY M. (1991, Winter). Grouping students for literacy learning: What works. *Massachusetts Primer, 20*, 2-19.

Provides a summary of major findings of investigations related to ability grouping and to alternative options for organizing students for literacy instruction. The reviewers present 11 findings related to homogeneous and heterogeneous grouping, as well as to cooperative grouping and peer tutoring. Among the findings are that the assignment of children to self-contained classrooms according to achievement or ability does not enhance achievement, that pupils in high versus low ability groups receive differential instruction, and that the assignment of pupils to permanent groups affects the perceptions of self and others. Also included are suggestions for classroom practice based on the research.

Stevens, Robert J.; Slavin, Robert E.; & Farnish, Anna Marie. (1991, March). The effects of cooperative learning and direct instruction in reading comprehension strategies on main idea identification. *Journal of Educational Psychology, 83*, 8-16.

Investigates the efficacy of direct instruction on the ability to identify the main idea of a paragraph as well as the degree to which cooperative learning procedures enhance the effect. Included in the study were 486 third and fourth graders from 30 classrooms in four elementary schools. Classes were assigned at random to one of three treatment groups counterbalanced for grade level: (1) direct instruction with cooperative learning (CL), (2) direct instruction in reading comprehension (DI), and (3) control (C). A 30-item multiple-choice pretest assessed pupils' entering abilities. The pretest measure was made up of 10 paragraphs each followed by a detail question, a main idea question, and an inference question. A 20-item multiple-choice test was used as the dependent posttest measure and consisted of 10 paragraphs, each followed by a main idea question and an inference question. Treatment continued for four days a week for four weeks. Pupils in the CL and DI groups achieved significantly better results than did C group pupils in identifying main ideas of passages. CL pupils did not perform significantly better than DI pupils, although they did average a third of a standard deviation higher on the main idea posttest.

Topping, Keith, & Whiteley, Marjorie. (1990, Spring). Participant evaluation of parent-tutored and peer-tutored projects in reading. *Educational Research, 32*, 14-32.

Reports the results of a project designed to help schools train, guide, and support parents in the use of the Paired Reading (PR) technique. Data were collected from approximately 83 projects involving nearly 3,000 children of various socioeconomic strata. Projects were monitored through simple home-school diaries, home observations, group discussion meetings, and specific objective and subjective measures. Norm-referenced data were collected. Results suggested that the average child gained 6.97 months in reading accuracy age and 9.23 months in reading comprehension age during an average time of 8.6 weeks. Subsequent follow-up periods suggested that children were progressing at more than twice normal rates in both accuracy and comprehension. Data from 2,521 questionnaires were analyzed. Approximately 70% of the participating parents considered their children to now be reading more accurately, fluently, and with better comprehension. Seventy-eight percent reported that their children were more confident readers. Data collected from classroom teachers were less positive than data collected from parents. Feedback from parent tutees was more positive than feedback from peer tutees. Responses of age-peer tutees were more positive than were responses for cross-age tutees. Overall responses from parent tutor and child tutee questionnaires correlated positively, and correlated positively with gains on reading tests. Positivity of responses and parent and child questionnaires correlated negatively with positivity of teacher subjective feedback. Overall, parent tutoring was viewed as a positive means for raising reading attainments and improving attitudes in reading.

Juel, Connie. (1990, September). Effects of reading group assignment on reading development in first and second grade. *Journal of Reading Behavior, 22*, 233-254.

Examines the effects of reading group placement on growth in reading during first and second grade, focusing on the balance between instructional pace and student success rate, as well as on the effects of group characteristics on reading growth. The study involved a secondary analysis of data from the same children from first through fourth grade. Of the original 129 children in eight classes, 80 remained at the end of second grade, and were assigned to seven classes. The children were approximately one-third Hispanic, one-third Black Americans, and one-third Anglo. In general, teachers reported using the MRT and, to a lesser extent, kindergarten teacher recommendations to place students in instructional groups. Children's group placement was rarely changed. The coefficient of correlation between place in basal series (i.e., the number of words that had been encountered) at the end of first grade and place in series at both the beginning and end of second grade was .77. Children with low incoming readiness test scores developed better decoding skills when placed in a basal series with fewer unique words. Initial aptitude, growth during first grade in decoding skills, and a high success rate in learning basal words influenced first grade reading achievement considerably more than sheer basal coverage or certain peer group characteristics. Only after basic reading skill was acquired did group placement begin to adversely affect reading development, i.e., if it constrained exposure to text in second grade.

SHEPPERSON, GRACE M. (1991, April/June). Cooperative learning in a silent classroom. *Reading Psychology, 12*, 133-145.

Observes the effects of cooperative learning on 49 secondary remedial reading students. The sample consisted of high school students who attended the remedial reading program based on CAT scores. For one school year, daily observations of one class were conducted along with student and teacher interviews, audiotapes of group interactions, and examination of writing samples. Most remedial activities were independent in nature and included silent reading, worksheets and games, and writing projects and journals. Findings suggest that although the classroom was based on cooperative learning principles, talking and working together was discouraged. Despite the incongruencies noted, students appeared to learn to work together successfully and showed gains relative to the affective domain. The development of a student community and support systems as well as students' opportunities to express themselves through writing were among the many benefits observed.

V-11 Corrective/remedial instruction

ASMUSSEN, LINDA, & GAFFNEY, JANET S. (1991, June). Reading in families: A research update. *Reading Horizons, 31*, 449-452.

Describes an in-progress study exploring relations between school and home factors in families with a child participating in Reading Recovery. Participants are 18 Illinois-based families of first grade children identified as reading deficent in early October 1990. Data being examined include home interviews to obtain information about family background, home literacy environment, and parent attitudes toward reading; observations of parent, sibling, and child interactions during informal reading sessions; and information from Reading Recovery teachers regarding the child's activities and progress during instructional sessions. Potential contributions of the study are mentioned.

MORRIS, DARRELL; SHAW, BEVERLY; & PERNEY, JAN. (1990, November). Helping low readers in grades 2 and 3: An after-school volunteer tutoring program. *Elementary School Journal, 91*, 133-150.

Describes the results of a small after-school tutoring program in which adult volunteers work one-to-one with low-achieving second and third grade readers. The tutoring program serves the lowest scoring second and third graders from neighborhood public schools. Tutors are volunteer university students, suburban mothers, and retirees. Children receive tutoring for one hour two afternoons per week. The typical tutorial session is composed of contextual reading at the child's instructional level, word study, writing, easy contextual reading, and listening to a story read aloud. Two reading specialists supervise the tutoring sessions; in addition, the supervisors are responsible for identifying the low readers, recruiting tutors, demonstrating procedures, and monitoring lessons. For two school years, pre- and posttest data were collected for both the tutored children (n=30) and a closely matched comparison group (n=30). Children were pretested on word recognition, spelling, and basal passage reading accuracy. In both years, the tutored groups outperformed the comparison groups on each achievement measure.

ELDREDGE, J. LLOYD. (1990, November/December). Increasing the performance of poor readers in the third grade with a group-assisted strategy. *Journal of Educational Research*, *84*, 69-77.

Examines the effects of group-assisted reading on poor readers' achievement in reading. Subjects were 36 poor readers randomly selected from a population of poor readers in three third grade classrooms in an elementary school. Subjects were split into two groups. One group received assisted reading, an instructional strategy designed to aid poor readers read frustration level literary material. The other group received no assistance in reading self-selected children's books. One instructor guided both groups in 15-minute pullout sessions which spanned an eight-week period. Subjects in both treatment groups were administered the GMRT, Level C, as a pretest in January and as a posttest in April. A 2 (treatment) x 3 (class) ANCOVA established differences as a result of treatment. Pupils who received group-assisted reading made greater achievement gains in reading comprehension and vocabulary than did those in the unassisted group.

DIVETA, SUSAN KAY, & SPEECE, DEBORAH L. (1990, November). The effects of blending and spelling training on the decoding skills of young poor readers. *Journal of Learning Disabilities*, *23*, 579-582.

Compares training in blending and spelling to determine which intervention would differentially affect the decoding skills and phonemic analysis of two first grade boys with learning disabilities who were in the "phonetic cue" stage of reading in which decoding is characterized by incomplete analysis. A single-subject, alternating design was used in which blending and spelling training were alternated randomly. Phonic blending emphasized print-to-sound relation, whereas spelling emphasized sound-to-print relation. The stimuli for training were two sets of 12 CVC (consonant-vowel-consonant) nonwords, randomly assigned to condition. In addition, the two boys received pre- and posttest administrations of a phonemic segmentation task. Both subjects attained the learning criterion (10 of the 12 words) in both conditions at approximately the same time, indicating that neither condition was superior in enhancing decoding. Further, the children demonstrated both maintenance and generalization of their skills. They also improved their phonemic skills, even though independent training in this area was not provided.

KUDER, S. JAY. (1991, February). Language abilities and progress in a direct instruction reading program for students with learning disabilities. *Journal of Learning Disabilities*, *24*, 124-127.

Examines the success of using the Distar reading program with 26 LD students from five self-contained urban classrooms. The sample included 18 LD students who had participated in the Distar program for two years and 8 LD students who had been in the program for one year. The average age was 9.7 and average reading level, 2.3. Pupils received small group direct instruction for 30 minutes, five days a week with a focus on a phonics-based approach. The children were tested at the end of the year with the WRMT, the PPVT-R, and the Test of Language Development-Primary (TOLD-P). On the average, reading achievement improved four months and was highest in the areas of word recognition and word attack skills. Significant coefficients of correlation were found between the PPVT-R and the word comprehension score on the WRMT (.45) and between the word discrimination subtest of TOLD-P and the WRMT (.48).

DAVIS, MAURICE. (1990, Fall). Using reading skills to help solve math word problems. *Oklahoma Reader, 26*, 15-16.

Determines if pupils could use their reading skills to improve in math word problems. Two groups of Chapter 1 third graders were the sample used in the study. Children were divided into the experimental (n=8) or control (n=8) group based on their reading levels. Pupils in the experimental group received two weeks of daily instruction in identifying key vocabulary terms in word problems and how to use those terms to identify the types of operations required to solve the problems. The control group received no math instruction during the remedial reading time. The mean increase in ability to solve math word problems from pre- to posttest was 41% for the treatment group and 28% for the control group.

DE SANTI, ROGER J.,& ALEXANDER, DOLORES H. (1986, Spring). Locus of control and reading achievement: Increasing the responsibility and performance of remedial readers. *Journal of Clinical Reading, 2*, 12-14.

Tests the effectiveness of weekly contracts and conferences on student reading achievement, attitudes toward reading, self-concept, and locus of control. The sample involved 23 fourth and 23 fifth grade remedial reading pupils. Each child participated in the remedial reading program five days a week for 55 minutes per day. The remedial materials were described as self-instructing, self-correcting, and self-pacing. In addition to their regular program, weekly contracts and conferences were included which focused on setting goals and helping children assume control over their outcomes and reinforcements. Pre- and posttest measures were the SRA Achievement Series (word knowledge and reading comprehension), the Estes Reading Attitude Scale, Piers-Harris Children's Self-Concept Scale, and the Intellectual Achievement Responsibility Questionnaire. The comparison data were tested using one-tailed t-tests, 11 of which were significant. Pupils participating in the weekly contracts and conferences made significant gains on all measures except the self-concept scale for the fourth grade group.

CHAN, LORNA K.S.; COLE, PETER G.; & MORRIS, JANE N. (1990, Winter). Effects of instruction in the use of a visual-imagery strategy on the reading-comprehension competence of disabled and average readers. *Learning Disabilities Quarterly, 13*, 2-11.

Compares the impact of instruction in the use of a visual-imagery strategy on the reading comprehension competence of disabled and average readers. Thirty-nine upper-primary disabled readers with a mean age of 11.07 years were matched on word recognition ability with 39 third grade average readers with a mean age of 7.5 years. The former attended educational support centers or a remedial center in Western Australia while the latter attended state primary schools in the same geographic area. Subjects were randomly assigned to three training conditions: visualization instruction only (VI), in which they were directed to make mental pictures of the text propositions as they read and reread the stories; visualization plus pictorial display (VI-P), in which they were directed to make mental pictures and also shown illustrations of the story events during the readings; and a control condition (RR), in which they were merely directed to read and reread the stories. Training and comprehension testing occurred over four 40-minute sessions in small groups of five. A 2 (Subject Group) x 3 (Training Condition) x 3 (Testing Occasion) repeated measures ANOVA, with Testing Occasion as the within subject factor, was applied to the comprehension test data. Results indicated that the VI-P condition was most beneficial to disabled readers' comprehension performance. However, children who received VI-P training did not appear to transfer use of the strategy to a reading situation in which no directions to visualize and no illustrative prompts were provided.

LAFRAMBOISE, KATHRYN L. (1991, Winter). The facilitative effects of word processing on sentence-combining tasks with at-risk fourth graders. *Journal of Research and Development in Education, 24*, 1-8.

Evaluates the effectiveness of word processing in conjunction with sentence combining on reading comprehension and writing fluency of at-risk fourth graders. Subjects were 54 children in six Chapter 1 basic classes in a rural school system. They were assigned to one of three treatment groups: sentence combining with word processing, sentence combining alone, or a control group following the school system's reading/language arts curriculum. Reading comprehension was assessed by comparing pre- and posttest performances on traditional cloze tests and structural cloze tests which focused on pronouns, relatives, prepositions, conjunctions, articles, and adverbs. Writing fluency was assessed by comparing mean words per T unit on pre- and post-free-writing samples. MANCOVA revealed no significant differences in performances among groups. Differences in hypothesized directions in favor of the word processing group were indicated by supplemental effect size analysis.

SCHUSTER, JOHN W.; STEVENS, KAY B.; & DOAK, PAM K. (1990, Fall). Using constant time delay to teach word definitions. *Journal of Special Education, 24*, 306-318.

Examines the effectiveness of a constant time delay procedure in teaching word definitions to children placed in a learning and behavior disorder (LBD) classroom. Subjects were three 10-year-old LBD pupils enrolled in fifth grade in one innercity public school. Each pupil had a mild learning handicap, had attended the LBD resource room for help for at least two years, and was reading at a 3.1 grade level. Their WISC-R Full Scale IQs were 76, 101, and 90. Their ability to verbally repeat orally given definitions was confirmed prior to the initiation of the study. All sessions were conducted individually in the LBD resource room. The targeted words were selected from upcoming stories in the pupils' instructional materials, and definitions were taken from the book's glossary. Each pupil was pretested to identify two sets of five unknown words. During the first instructional session for each set of definitions, a 0-second time delay was used. The teacher presented a flashcard displaying the word, said the word, immediately provided the correct definition, and waited for the pupil to imitate the model. During all subsequent sessions a 5-second delay was used. If the subject was unresponsive, the teacher modeled the correct definition and waited for the student to imitate the model. Correct responses were defined as initiating a response within 5 seconds and completing the definition within 15 seconds (5 seconds longer than the expected response time of the longest definition). Instructional sessions consisted of a total of 30 trials which allowed six random presentations of each of the five words. Maintenance checks were conducted 6, 10, and 14 weeks after the final problem condition was completed. A multiple-probe design across subjects and replicated across sets of word definitions was used to assess the effectiveness of the 5-second constant time delay. Results confirmed that all subjects learned the 10 targeted words in eight to nine sessions. Training time per subject for each set of definitions ranged from 15 to 28 minutes with an approximate average of 20 minutes per set. The subjects maintained correct responding levels up to 14 weeks after training ended. Pre- and postgeneralization test scores indicated that two of the three pupils improved on word reading and all improved on stating the word after hearing its definition.

HUNT, JAMES W., & JOSEPH, DENNIS. (1989-1990). Using prediction to improve reading comprehension of low-achieving readers. *Journal of Clinical Reading, 3*, 14-17.

Compares the effectiveness of teacher questioning and student predictions as methods of improving reading comprehension of poor readers. The sample included 18 students from two classes at an alternative school for students with high retention rates. The average sample age was 15 and average reading grade level was 5. Fifteen high interest-low vocabulary stories were selected for instruction. One story was taught daily for 15 consecutive days. During the guided reading portion of the DRA format, one group was given teacher questions, while the second group was asked to make predictions. The predictions were written down and later were evaluated and revised. All other aspects of the reading lessons were the same. Students were tested before and after the 15-week period using the SDRT and an IRI measure. There were significant differences between the two groups on literal and inferential comprehension in favor of the group that was asked to predict during the story.

FARRIS, PAMELA J., & ANDERSON, CAROL. (1990, October). Adopting a whole language program for learning disabled students: A case study. *Reading Horizons, 31*, 5-13.

Reports on a case study illustrating the adoption of whole language instruction with one junior high LD classroom. Observations of student behaviors during literacy activities supported the conclusion that a literature-based reading program is a desirable alternative to basal materials. Positive effects were noted in student motivation, recall of literal information, and mature reading behaviors.

GURNEY, DANA; GERSTEN, RUSSELL; DIMINO, JOSEPH; & CARNINE, DOUGLAS. (1990, June/July). Story grammar: Effective literature instruction for high school students with learning disabilities. *Journal of Learning Disabilities, 23*, 335-342, 348.

Reports on the improvements in the comprehension of short stories when instruction in story grammar is delivered to seven LD high school students. Subjects received intervention in three small groups for nine weeks. Groups 1 and 2 received both traditional basal literature instruction and literature instruction in story grammar elements in counterbalanced order. Group 3 served as a control group and received only basal instruction. Assessment passages, short stories followed by story grammar and basal comprehension questions, were administered periodically during the study resulting in 12 test protocols per student. Students were interviewed individually at the end of the study. Positive effects were noted in the students' ability to answer questions based on story grammar elements but were not found for the basal items.

DIMINO, JOSEPH; GERSTEN, RUSSELL; CARNINE, DOUGLAS; & BLAKE, GENEVA. (1990, September). Story grammar: An approach for promoting at-risk secondary students' comprehension of literature. *Elementary School Journal, 91*, 19-32.

Compares the effectiveness of two comprehension strategies, story grammar versus traditional literature instruction, for at-risk ninth graders. Thirty-two students enrolled in grade 9 Basic English were matched on a pretest for story grammar and randomly assigned to either condition. All participants scored at least one year below grade level on the reading comprehension subtest of the MAT. Short stories for use in instruction were selected from basals, magazines, and anthologies with readability levels ranging from fifth to eighth grade. Instruction took place over 19 days and included pre-, post-, and maintenance tests consisting of short passages followed by story grammar and basal questions and a written recall. Each of the scores was used in three two-way ANOVA's examining factors of instructional method (story grammar versus traditional) and time (immediate versus maintained). Students receiving instruction in story grammar performed significantly better on both testing occasions and on all three items than students in traditional intervention. Decreases in scores from the post- to the maintenance test were noted for both groups.

Wasson, Barbara. (1990, December). Teaching low-achieving college students a strategy for test taking. *College Student Journal, 24*, 356-360.

Examines the effects of teaching low-achieving college students a strategy for test taking. Subjects were 16 out of 50 students enrolled in a college survival course for low achievers. The subjects were assigned to two groups of eight that were matched on sex, level of test anxiety, test attitude, and pretest scores on the Comparative Guidance and Placement Program (CGP) English test. The experimental group received 8 to 10 sessions of out-of-class instruction on a test-taking strategy, while the control group received the standard test-taking instruction offered in the college course. CGP posttest comparisons with the pretest indicated the experimental subjects improved their scores significantly as compared to the control subjects. Additionally, the experimental group was able to use the test-taking strategy successfully on tests given later in their regular courses.

Enfield, Mary Lee. (1988). The quest for literacy. In R.F. Bowler (Ed.), *Annals of dyslexia*, (Vol. 38, pp. 8-21). Baltimore, MD: Orton Dyslexia Society.

Describes a pilot and longitudinal study of the effects of a classroom version of the Orton-Gillingham system on children with reading difficulties. The pilot examined the effects of the program over a one-year period on six classes, two each at grades 1, 2, and 3. There were 45 children in the experimental group matched with 45 in the control group on reading level, IQ, grade level, sex, and age. The program specialist visited each experimental classroom during reading instruction of the low group and, with that group, utilized the modified Orton-Gillingham system while the regular teacher observed. After three weeks the regular teacher took over instruction, while the program specialist returned periodically for consultation. At the end of one year, the experimental group showed significant gains over the control group on standardized tests administered. In the major study, similar program procedures were used with 600 first, second, and third grade children randomly selected from 1,300 children whose IQs exceeded 90, who were reading below the 25th percentile, and who were eligible for LD services according to the system's criteria. Nineteen behavioral objectives were established, 12 of which were met during the first year at the .001 level. At the end of three years, LD referrals from the program dropped from 100% to 25%.

Ogden, Sherry; Hindman, Suzanne; & Turner, Susan Douglas. (1989). Multisensory programs in the public schools: A brighter future for LD children. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 39, pp. 247-267). Baltimore, MD: Orton Dyslexia Society.

Presents the results of a three-year study of the implementation of the Alphabetic Phonics (AP) curriculum for SLD children in Hillsborough County, Florida, to determine if children made significant progress in reading and if gains varied according to age at the beginning of the program, according to instructional placement, or according to categories of IQ, and if classroom teachers had a more positive view of SLD children's classroom reading behaviors after completing the program. Subjects were 251 randomly selected first year SLD children, 234 labeled mild to moderate learning disabled resource children, and 17 severely learning disabled full-time children. Subjects were classified by IQ into three categories: below 90, between 90 and 110, and 111 and above. Three years later, 138 children completed the study, 17 from full-time placement and 121 from resource placement. Two instruments were used for data gathering: the SDRT and a locally developed teacher checklist. After three years of AP, 48% of the total group met or exceeded expectations in phonic analysis and 50% in reading comprehension, with greatest increases occurring for those who began AP as first graders. T-score results suggested performance slightly above expectation in phonic analysis and slightly below expectation in reading comprehension, with those receiving AP instruction in early grades making the greatest gains. Pupils in both placements made significant gains in sage. Also administered was a test that yielded a score of strategy knowledge of short passages. POSSE was then implemented for two months with the experimental group. Posttests similar to the pretests were administered. For written recalls, a MANCOVA was performed on the three dependent measures covarying for performance on the pretests. Since this analysis revealed a significant effect for instructional condition, a univariate ANOVA was applied. Results indicated the pupils in the experimental group recalled significantly more ideas than the pupils in the control group and produced better organized recalls. MANCOVA for pretest performance on the measure of strategy knowledge also showed experimental children outperforming the controls.

HUTCHESON, LENOX; SELIG, HARRY; & YOUNG, NORMA. (1990). A success story: A large urban district offers a working model for implementing multisensory teaching into the resource and regular classroom. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 40, pp. 79-96). Baltimore, MD: Orton Dyslexia Society.

Describes the three-year process by which a large urban school district in the Southwest U.S. implemented the Orton-Gillingham program into resource and regular classrooms. A study is reported showing the effects of the program on 2 LD children's reading and spelling ability. Special education resource teachers (n=16) received a 90-hour basic introductory course on how to implement the program. This was followed by two years of advanced training during which teachers were observed and critiqued twice on their execution of the programs, and during which they received two half-day workshops each fall and spring and a two-day workshop in the second summer. Concurrently, first grade teachers, one from each of the 164 campuses in the school district, along with supervisors and principals, attended a 25-hour course on using multisensory teaching and discovery techniques. The first grade teachers and the special education resource teachers returned to their campuses and together provided inservice to their school faculty members. A study was conducted by the district's research department in which 456 students were selected from 999 students being taught by teachers trained in the Orton-Gillingham based approach. Selected students ranged in grade level from K-12 and had ben classified LD. The WRMT-R and the Test of Written Spelling-2 (TWS-2) were administered in a pre/posttest design to determine the extent of progress achieved over one year. Results of paired t-tests revealed statistically significant gains in reading and spelling for the LD students.

FARRIS, PAMELA J.; FUHLER, CAROL; & GINEJKO, MARY LOUISE. (1991, April). Reading, writing, discussing: An interactive approach to teaching in the content areas. *Reading Horizons, 31*, 261-271.

Investigates the effectiveness of a six-step interactive study strategy, RESPONSE, with 36 regular and 19 high risk pupils at the junior high level. Seventh grade regular children scored significantly higher (p<.01) on a chapter test when they used RESPONSE as a cooperative learning activity than when they had used SQ3R. Data from the eighth grade LD pupils are reported qualitatively, suggesting the viability of this strategy for high risk students.

LEONG, CHE KAN; SIMMONS, DONALD R.; & IZATT-GAMBELL, MARYANNE. (1990). The effect of systematic training in elaboration on word meaning and prose comprehension in poor readers. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 40, pp. 192-215). Baltimore, MD: Orton Dyslexia Society.

Reports two interrelated exploratory training studies to promote word meaning and prose comprehension in poor readers. In Study 1, subjects were 14 fifth graders who scored in the lowest quartile for their grade on the CTBS, and 14 controls who scored among the highest at their grade. Subjects received different levels of word knowledge training over a period of 25 minutes for 30 teaching days. Prior to instruction on the 32 target words, chilreading comprehension but not in phonic analysis, with largest gains shown by those in early intervention. Gains were noted for all levels of ability, but significant differences were noted for those in the high ability group. Teachers reported pupils behaved differently on three of the seven behaviors after three years of AP.

GALLEGOS, ANNE Y. (1991, Spring). It's not too late! Enhancing literacy development in learning disabled adolescents. *Contemporary Issues in Reading, 6*, 83-86.

Studies the effects of a literacy project involving writing instruction on the writing and reading performance of LD adolescents. The project included 14 teachers working with 65 LD students for eight weeks. All teachers were directed to follow an established program format reflecting procedures of writing process instruction. Program effects were evaluated both qualitatively and quantitatively. Holistic evaluations of pre- and postprogram writing samples indicated increases in students' performances in all areas of writing. The development of the ability to express more complete thoughts and to better utilize standard form was apparent. The quantitative, analytic scoring of the writing samples indicated increases in all areas, including meaning, organization, and form. Participants' reading performance was assessed on the Brigance Inventory; results indicated an overall increase of nearly two grade levels. Grades for participants enrolled in classes requiring reading of content area materials increased by an average of 4% (on a 100% scale). Finally, review of the recorded observations of both teachers and students revealed positive reactions and the consensus among teachers that flexibility was especially important for establishing this writing program for inexperienced writers.

LOVELESS, PEGGY. (1991, Spring). Creating a literate environment to motivate the low reader. *Oklahoma Reader, 27*, 13-15.

Asks whether modeling the pleasure of reading by using the classics and arranging a comfortable atmosphere for reading increases pupil motivation to read and results in higher test scores. Subjects were remedial reading pupils enrolled in two schools in Oklahoma who scored in the lowest third on standardized reading tests. Grade levels ranged from second to fifth grade, with each pupil at least one grade level behind in reading ability. Forty-eight pupils met daily for skills instruction. Once a week, they engaged in Classic Connection, where children or teachers read a classic text and engaged in follow-up activities. Comment sheets were sent to parents; children's comments were recorded daily, and on two specific occasions, teachers made observations and librarians listened for comments about materials and activities. Preliminary results indicate positive attitudes toward the activities and the program.

ENGLERT, CAROL SUE, & MARIAGE, TROY V. (1991, Spring). Making students partners in the comprehension process: Organizing the reading "posse." *Learning Disability Quarterly, 14*, 123-138.

Reports on the effects of an instructional strategy known as POSSE on at-risk children's reading comprehension of expository text. Specifically, POSSE incorporates reciprocal teaching in prereading, during reading, and after reading formats that encourage students to *P*redict ideas on a topic based on their prior knowledge, *O*rganize predictions based on text structure, *S*earch/*S*ummarize the text structure in the selection being read, and *E*valuate comprehension. Subjects were 28 fourth, fifth, and sixth graders identified as LD according to local and state guidelines. Subjects were drawn from five classrooms; two groups participated in the expository condition (n=11) and three in the control condition (n=17). Comprehension on pretests was assessed by asking pupils to produce written recalls after reading expository passages. Written recalls were scored for total number of ideas recalled, number of main ideas recalled, and degree to which pupil recalls matched the structure of the assigned pasdren were checked on their level of knowledge about the words. Children were placed in enriched, partial, or minimal training conditions. Pretests and posttests were administered at two time periods. Children trained under the enriched conditions, especially the less skilled readers, seemed to receive the most benefit. Pupils in Study 2 were 22 grade 7 poor readers who scored among the lowest 25% on the CTBS. Subjects read expository passages, responded, received judging and feedback, and learned additional strategies. Again, one group received full elaboration training, a second partial elaboration training, and a third, minimal elaboration training. Training took place in 20 sessions of 30 minutes each. Assessment took place in week three and week five, with major emphasis on students' ability to generate thoughtful questions. Pupils in the full elaboration condition performed significantly better than those in the partial or minimal elaboration conditions.

Wilson, Cynthia L., & Sindelar, Paul T. (1991, May). Direct instruction in math word problems: Students with learning disabilities. *Exceptional Children, 57*, 512-519.

Compares the effectiveness of three different approaches to teaching LD pupils identification of the correct algorithm for solving addition and subtraction word problems. Subjects were 62 LD children from nine elementary schools. Pupils classified as LD were selected for the study on the basis of various school and researchers' criteria. Instructional groups of three to five were formed within the nine schools and assigned to one of three treatments. Treatment 1, Strategy Plus Sequence, involved explicit presentation of the algorithm, demonstration of its application, and diagramming of the application process. This was followed by assignment of practice problems (action problems, followed by classification problems, complex action problems, and comparison problems respectively), each type for a period of three days. Treatment 2, Strategy Only, utilized the same instructional format as treatment 1, but provided practice problems in combination over the practice days. Treatment 3, Sequence Only, elicited information regarding each problem solving strategy through questioning and followed through with assignment of practice problems as in treatment 1. All instruction occurred in 14 sessions of 30 minutes each from Monday through Friday for three weeks, with scripted lesson plans being used by instructors for each treatment. Children were administered equivalent pre- and posttests of addition and subtraction from each of the four problem types. ANCOVA revealed that treatments involving strategy instruction were more effective than the treatment involving sequencing only.

Lyons, Carol A. (1991, June). Reading Recovery: A viable prevention of learning disability. *Reading Horizons, 31*, 384-408.

Presents a detailed case study of Mike, a kindergarten student previously labeled as LD, contrasting his diagnosis, instruction, and progress while enrolled in a private clinic specializing in learning disabilities, in a private summer school recommended by the clinic, and in a 12-week Reading Recovery program, where he received a 30-minute daily program tailored to his needs and following the four major Reading Recovery components of rereading favorite books, taking running records of text reading, composing and writing a message or story, and reading a new book. Mike was released from Reading Recovery after 62 lessons, reading comfortably at the primer basal level. Recommendations for those concerned with instruction for children with learning difficulties are included.

Zynda, Barbara. (1984, Spring). An investigative study of remedial students' progress after participation in a university/school field reading clinic. *Journal of Clinical Reading, 1*, 18-22.

Examines whether students participating in a university remedial reading clinic maintained reading improvements and whether recommendations provided by the clinic were implemented once students were back in their home schools. The sample included 15 randomly selected students, ages 10 to 15 years, in grades 4 to 9. Each student was interviewed and tested at school two years later using the Ekwall Reading Inventory and the San Diego Quick Assessment test. On the average, students gained two years after one 10-week session in the clinic. In a retest two years later, the average gain per year was five months, only slightly higher than prior to their remedial experience at the clinic. Some students no longer received support services in the school, but the majority of those still attending remedial programs participated in instruction that was contrary to the recommendations made in the clinical report.

SHAPIRO, SHEILA, & WELCH, MARY. (1991, April). Using poetry with adolescents in a remedial reading program: A case study. *Reading Horizons, 31*, 318-331.

Presents a case study of Eddie, a 15-year-old boy, classified as severely learning disabled in school, who attended a university-based reading clinic for several semesters and finally experienced reading and writing success through the use of poetry–his own and the writing of others–for instruction.

THURSTON, LINDA P., & DASTA, KATHY. (1990, July/August). An analysis of in-home tutoring procedures: Effects on children's academic behavior at home and in school and on parents' tutoring behaviors. *Remedial and Special Education, 11*, 41-52.

Evaluates, in three studies, the effects of training parents in the use of home tutoring procedures on children's reading, mathematics, and spelling performance skills. Study 1 focused on parents' ability to utilize tutoring procedures acquired through training on children's word reading and oral reading. Study 2 centered on children's performance in mathematics at home and at school when classroom teachers were aware of the program. Study 3 evaluated children's performance in spelling when classroom teachers were not aware of the program. Training procedures for each academic area typically involved the parents in role playing a variety of instructional procedures until mastery was achieved. These procedures included giving basic directions, scheduling activities, record keeping, and charting. Different trainers and parents participated in each study. A variety of pre- and posttutoring standardized and informal measures were administered to the small number of children (1-8) who participated in each study. Multiple baseline analyses and reversal designs with single subjects were employed. Findings for study 1 indicate parents could successfully use procedures after training. Some gains in word recognition and oral reading were reported for the experimental children. Findings of studies 2 and 3 showed that home tutoring benefitted chil-dren's mathematics and spelling home performance and that the benefits transferred to the school setting. Children, parents, and teachers indicated satisfaction with the home tutoring procedures.

V-12 Teaching bilingual/other language learners

LANGER, JUDITH A.; BARTOLOME, LILIA; VASQUEZ, OLGA; & LUCAS, TAMARA. (1990, Fall). Meaning construction in school literacy tasks: A study of bilingual students. *American Educational Research Journal, 27*, 427-471.

Examines the ways in which Mexican-American children construct meaning when reading school materials, focusing on the strategies they use when reading English and Spanish, the knowledge sources they call upon, and the ways in which these relate to their understanding. Twelve fifth grade pupils, all from bilingual homes, were asked to read both Spanish and English stories and informational pieces. Interspersed questions, postreading probes, and oral and written recalls were designed to tap their text understanding over the course of reading, as well as what they recalled after each piece. Interviews and school records provided background information about the students' personal and school histories both in the United States and in Mexico. Transcripts, fieldnotes, and writing samples were analyzed for patterns in the pupils' approach to the construction of meaning and in their different uses of language and genre. Findings indicated that: (1) beyond a necessary basic, but limited, knowledge of English, the children's abilities to use good meaning-making strategies made the major difference in how well they comprehended in both Spanish and English; (2) language competence in Spanish helped pupils understand and respond to questions in both languages; (3) the pupils' familiarity with genre affected their ability to build meaning in both languages; and (4) the kinds of questions the children were asked affected their ability to communicate what they understood.

PALMBERG, ROLF. (1990, June). Improving foreign language learners' vocabulary skills. *RELC Journal, 21*, 1-10.

Details research-based observations of the ways in which foreign words are stored in learners' mental lexicons, and presents a series of activities and exercises that aim at improving learners' receptive and productive vocabulary skills. In summary, most of the research suggests that words are stored in learners' mental lexicons in different kinds of associative networks. Therefore, activities that emphasize incorporation of words into appropriate semantic networks were promoted as most beneficial.

MILLER, LEAH D., & PERKINS, KYLE. (1990, June). ESL reading comprehension instruction. *RELC Journal, 21*, 79-94.

Cites selected supporting research in presenting some techniques and strategies for teaching ESL reading comprehension. Notes that the greater proportion of classroom time needs to be devoted to teaching comprehension skills and their application.

HADAWAY, NANCY L. (1990). Reading and writing for real purposes in the English as a second language classroom. In Betty Carter & John C. Stansell (Eds.), *Reading education in Texas* (Vol. 6, pp. 67-73). Austin, TX: Texas State Reading Association.

Describes a project that established a letter exchange between university-level teacher education students and bilingual/ESL students for the purpose of increasing the linguistic awareness of second language learners through a purposeful writing act. Forty-eight second and twelfth graders wrote letters to preservice teachers in the fall semester; by spring semester, 85 students from nine schools had exchanged approximately five to six letters with their university correspondents. Non-English speaking students wrote in Spanish. Topics covered in letters included school, coursework, studying, family and home, hobbies and interests, language and learning difficulties, and adjusting to a new school or new country.

HAFIZ, F.M., & TUDOR, I. (1990). Graded readers as an input medium in L2 learning. *System, 18*, 31-42.

Describes an experiment into the effects of a 90-hour extensive reading program using graded readers on the language development of a group of secondary school students (n=25) learning English as a second language (ESL) in Pakistan. All the subjects were 15- to 16-year-old males. A second class group (n=24), similar in age, school year, and amount of prior English instruction, but differing in social background, served as the control group. The control group was stronger in initial level of English language proficiency. The reading program offered the experimental students a selection of graded readers from which the subjects could choose and read freely. Following the independent reading, subjects were asked to tell the story of the book read. A pre- and posttest essay was completed by each subject to determine the effects of the treatment program. Comparisons of performance were by means of t-tests for correlated samples. Results showed significant gains for the experimental group in both fluency and accuracy of expression, although not in syntactic maturity. The researchers suggest that extensive reading can provide learners with a set of linguistic models that, by a process of overlearning, may be assimilated and incorporated into learners' active second language repertoire. The results are discussed with references to a related study in an ESL context in the United Kingdom.

AKYEL, AYSE, & YALÇIN, EILEEN. (1990, July). Literature in the EFL class: A study of goal-achievement incongruence. *ELT Journal, 44*, 174-180.

Uses results from student and teacher questionnaire responses to evaluate the present state of literature teaching in the English departments of five selected private higher schools in Istanbul, Turkey. Schools in the survey have one year of intensive English and English as the medium of instruction for math and science at the junior and senior high school levels. Areas investigated on the questionnaire were goals of teachers, student reactions to specific genre contributions to language and literary competence, student reaction to text selection, classroom technique, and teacher and student evaluations of the program. Findings suggest a lack of agreement among teachers on the major objectives of the program, a favoring of novels over other genres, an acceptance of text choices by those students who had a better command of English, instruction which is heavily teacher centered, and discrepancies between teachers' goals and achievements and students' needs. Recommendations for change are included.

LONGMAN, DEBBIE GUICE, & ATKINSON, RHONDA HOLT. (1990, Fall). An investigation of high school preparation as a predictor of the cultural literacy of developmental, nondevelopmental, and ESL college students. *Research and Teaching in Developmental Education, 7*, 35-44.

Compares the cultural literacy and academic preparation of nondevelopmental (n=40), developmental (n=40), and ESL (n=40) college freshmen. The sample consisted of randomly selected students enrolled in freshmen level developmental reading and English courses. Students were administered a survey instrument consisting of 50 randomly selected items from Hirsch's cultural literacy list and a checklist of high school coursework completed. Responses were scored by two raters on a 4-point scale for the literacy items, and a dichotomous scale was used for the high school courses taken. As predicted, the nondevelopmental students significantly outperformed both the ESL and developmental groups on the cultural literacy items with the exception of social studies questions. Nondevelopmental students reported having more high school courses in math and natural sciences. There were no differences in the scores on literacy items between the ESL and the developmental students, although ESL students scored higher on social studies questions. Discussion as to whether high school preparation is a significant factor in the ability to answer cultural literacy items follows.

V-13 Tests and testing

FARR, ROGER; PRITCHARD, ROBERT; & SMITTEN, BRIAN. (1990, Fall). A description of what happens when an examinee takes a multiple-choice reading comprehension test. *Journal of Educational Measurement, 27*, 209-226.

Uses a combination of observation and interview techniques to describes the strategies employed when taking a multiple-choice reading comprehension test. Subjects were 26 college seniors enrolled in a reading diagnosis course. Three passages, each approximately 325 words in length, and 24 accompanying questions from the Iowa Silent Reading Test, Level 3, were given to students to read. Subjects were randomly assigned to either an introspective or a retrospective interview condition. In the retrospective condition, subjects read the text passages and answered the questions silently and then were asked to tell how they had gone about the task. In the introspective condition, subjects explained what they were doing as they proceeded through the passages and questions. Analysis of the data resulted in the identification of three broad categories of processing behavior. The first consisted of four different overall strategies or general approaches: (1) reading of passage and questions followed by a search for correct responses in the passage; (2) passage partially read, then each question read, followed by a search for correct responses; (3) all questions read first, then passage read and questions reread with a search of passage for answers; and (4) first question read followed by a search of passage with the same strategy employed for subsequent questions. Following the categorization of each subject's overall strategy, specific reading and test taking strategies were analyzed. Difficulties encountered were classified into four groups: those related to a passage or a question, those that were passage-specific, those that were question-specific, and those that were related to the test or the situation. In general, little attention was focused on obtaining an overall understanding of the passage; rather, subjects were intent on searching for answers to specific questions.

VALENCIA, SHEILA W.; STALLMAN, ANNE C.; COMMEYRAS, MICHELLE; PEARSON, P. DAVID; & HARTMAN, DOUGLAS K. (1991). Four measures of topical knowledge: A study of construct validity. *Reading Research Quarterly, 26*, 204-233.

Seeks to establish the construct validity of measures designed to assess topical knowledge and to determine what factors affect such knowledge. Subjects included 31 ninth grade students and 44 third and fourth grade pupils, all of whom were reading at or near their respective grade levels based on scores from the CTBS. Each subject's knowledge of four topics taken from typical school materials—both expository and narrative—was assessed using four measures: (1) a multiple-choice vocabulary test, (2) a semantic relatedness measure designed to assess knowledge of the hierarchical relations between the focal topic of each passage and concepts related to that passage, (3) a prediction measure in which 15 topics were to be judged as to whether each might appear in a selection on a given subject, and (4) a structured interview. The interview was the criterion measure against which the three recognition measures were to be judged. Correlational analyses and multiple regression analyses were used in analyzing the data. No patterns emerged from these two, therefore conditional probability analyses were conducted. Data showed inconsistencies in correlation coefficients between measures, the degree to which measures predicted performance on the interview, and the amount and type of information obtained from different measures. Results of the conditional probability analysis suggested that there were differences in the information provided by the interview and the paper-and-pencil measures. It was concluded that both interview and recognition measures were needed in order to obtain a complete picture of an individual's topical knowledge.

BEAN, RITA M., & LANE, SUZANNE. (1990, September/October). Implementing curriculum-based measures of reading in an adult literacy program. *Remedial and Special Education, 11*, 39-46.

Asks whether performance on curriculum-based measures (CBM) provides a reliable and valid index of reading achievement and reading gains, and questions teachers and students on their perceptions of the value and utility of CBM. The sample was 57 unemployed adults who were reading below an eighth grade level and were participating in a 10-week adult basic education program. Adults attended the program for three-hour sessions five days a week. The CBM were one-minute oral readings using narrative and expository passages at varying levels of difficulty. Three types of reliability were calculated: (1) alternate form reliability on types of text used (narrative, r=.94 versus expository, r=.68); (2) reliability on

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passage difficulty (fourth, r=.91; fifth, r=.88, eighth, r=.92); and (3) interrater reliability on scoring correct words per minute (98.8% for narrative; 97.5% for expository). Criterion validity was determined using pre/posttest scores on the CAT comprehension subtest, the oral reading CBM, WRMT word identification subtest, and teacher judgment. The highest validity coefficient was .60 between the final CBM (timed oral reading) and teacher judgment. Perceptions of teachers and students were measured with questionnaires. Overall, teachers found oral reading fluency measures to be informative and easy to use. Students reported enjoying the timed reading. This study used CBM in relation to reading fluency only.

PRESSLEY, MICHAEL; GHATALA, ELIZABETH S.; WOLOSHYN, VERA; & PIRIE, JENNIFER. (1990, Summer). Sometimes adults miss the main ideas and do not realize it: Confidence in responses to short-answer and multiple-choice comprehension questions. *Reading Research Quarterly, 25*, 232-249.

Examines, in two experiments, the relation between question characteristics and awareness of comprehension. Subjects for both experiments were Canadian university students enrolled in a first year psychology course. In Experiment 1, students read passages each followed by a question (either short-answer or multiple-choice) about the passage content. Comprehension awareness was assessed with each passage/question combination by asking subjects to decide whether they wanted to reread the passage and redo the question (because they thought the answer was incorrect), or whether they wanted to move forward (because they thought the answer was correct). Statistical comparisons of various response patterns indicated student monitoring of their reading and rereading was better in the short-answer than in the multiple-choice condition. However, even when answers were incorrect, students rarely looked back for general thematic questions as opposed to detail questions, regardless of format. In Experiment 2, students were asked to rate their confidence in their own accuracy after reading each passage/question combination. Consistent with the findings in Experiment 1, students showed greater confidence in the accuracy of their answers to thematic questions, even though they were wrong. This was similarly apparent in both the short-answer and the multiple-choice formats. Overconfidence was not related to students' verbal ability.

MCCABE, PATRICK P.; MARGOLIS, HOWARD; & MACKIE, BARBARA. (1991, Spring). The consistency of reading disabled students' instructional levels as determined by the Metropolitan Achievement Test and the Ekwall Informal Reading Inventory. *Reading Research and Instruction, 30*, 53-62.

Compares instructional levels obtained for RD children on the MAT and the Ekwall Reading Inventory (ERI). Subjects included 19 fourth, 8 fifth, and 12 sixth grade pupils who were receiving remedial reading instruction. The two measures were administered in the spring of the school year and instructional reading levels were determined according to test manual directions. Spearman rhos were used in assessing the association between silent instructional levels from each test and pupil placement in basal readers and also to determine the strength of association between the two measures of instructional level. A rho of .43 was obtained between the instructional level scores of the two tests, with 19% of the variance being shared. Greater variability of instructional level scores at each grade level was found with the ERI as compared to the MAT scores. MAT scores were more consistent with basal placement than were ERI instructional levels at grades four and five; ERI levels were more consistent with basal placement at sixth grade.

COOK, JOHN. (1990, November). The construction of a chart to record children's progress in reading. *Reading, 24*, 139-150.

Reports the development and try-out of a two-dimensional graph designed to offer a referent and a prediction for reading growth. CA and RA were the two axes of the graph. The conversion table of a standard reading test was entered on the chart, so that any raw score from the test could be associated at a particular chronological reading age with both a RA and a percentile value. Plotting other tests yielded a cluster of points at the intersections of CA and RA. Similar points were taken at half yearly values for CA and RA at the percentile under consideration. When all of the age pairs had been plotted, a best fit straight line was constructed which became the percentile line at a particular level. CA and RA pairs then were evaluated for each of nine percentile scores, giving nine lines on the chart. Validation was conducted with three separate groups of 20 children who were judged good, average, or poor readers. Using their scores on the Schonell Graded Word Reading Test, group RA means were calculated and the mean age at administration was found. When group means were plotted on the chart, poor readers' means followed closely the expected slope, as did the good readers' means until a ceiling effect was achieved. However, the slope of the average group showed more variability. A follow-up study of 60 middle school readers using objective criteria rather than teacher judgment to identify good, average, and poor readers produced more consistency, but indicated the groups' tendency to the mean as the upper limit of the test is reached.

RASINSKI, TIMOTHY V. (1990, July). Investigating measures of reading fluency. *Educational Research Quarterly, 14*, 37-44.

Identifies several measures of reading fluency and notes their ability to predict reading comprehension. Included were 77 third graders and 65 fifth graders from two schools, one upper middle class suburban school and one lower middle class innercity school. Each subject was tested individually and in small groups. In the individual session, each child read orally a 500-word passage from a social studies textbook that was one grade level above the subject's grade placement. Children then were asked a free recall and a cued recall, followed by a 10-item multiple-choice test. Subjects then read orally a story written to elicit phrase boundary knowledge and were asked to read the same story silently and mark the pause breaks within each sentence. Training preceded this latter task. Finally, children were asked to parse the social studies passage that had been read earlier. All children were given the GMRT. Measures employed in the analysis included the following scores: reading rate, miscue ratio, Glod phrasing, social studies phrasing, retelling, and multiple-choice. All fluency measures were correlated against each of the three measures of comprehension; coefficients ranged from .105 to .791. Relatively low coefficients were found between the retelling score and the various fluency measures. Factor analysis procedures yielded three fluency factors and one comprehension factor.

CHRISTENSON, GARTH N.; GRIFFIN, JOHN R.; & DELAND, PAUL N. (1991, April). Validity of the dyslexia screener. *Optometry and Vision Science, 68*, 275-281.

Validates a dyslexia screener (TDS) instrument developed for optometrists which categorizes patients as having one of three types of dyslexia: dysphonetic, dyseidetic, or mixed. Subjects were 52 students in grades 2 to 9 and aged 7 to 15 who attended special day classes (n=8); resource specialist programs (n=13); a private school for dyslexic children (n=11); or were reported by teachers as reading disabled (n=10) or nonreading disabled (n=10). Subjects were stratified based on the severity of the proposed reading problem. Students were administered the TDS and the Dyslexia Determinator Test (DDT). Mean score differences on the two tests were not significant. Correlation coefficients were .76 for dyseidesia classification and .59 for dysphonesia. Results suggested that the diagnostic classifications obtained from TDS are similar to those achieved using the DDT.

AARON, P.G. (1991, March). Can reading disabilities be diagnosed without using intelligence tests? *Journal of Learning Disabilities, 24*, 178-186, 191.

Uses listening comprehension and other reading-related tasks to make a differential diagnosis of reading disabilities. Study 1 focused on standardizing the diagnostic procedure. The norming sample was 180 children from intact classrooms in grades 3 to 8. Children were administered the WRMT, a decoding test comprised of 36 pronounceable nonwords, and reading rate on 24 standardized passages. A regression equation was calculated and used to predict reading comprehension from listening comprehension scores. Listening comprehension accounted for 53.3% of variance found in reading comprehension and for 74% of the variance when combined with the decoding measure. The same equation was applied in Study 2 using 7 children who had reading difficulties. Using the same testing procedures, pupils were diagnosed as having a specific reading disability if they exhibited adequate listening comprehension but poor decoding skills. If they had poor listening comprehension scores but moderate decoding skills they were considered nonspecific reading disabled, and if pupils showed evidence of deficits in both listening comprehension and decoding, they were classified as having a generalized cognitive deficit. Results of the study suggested that diagnostic decisions made on the basis of listening comprehension and the regression equation proposed are valid.

GIDDINGS, ELVA H., & CARMEAN, STEPHEN L. (1989, October). Reduced brightness contrast as a reading aid. *Perceptual and Motor Skills, 69*, 383-386.

Observes whether scores on the NDRT differ for 33 average and 21 learning disabled college students when presented in a reduced contrast context. Two versions of the comprehension test, one in white (contrast rating 9) and one in grey (contrast rating 6) were administered to all subjects, resulting in two scores. No differences were found for the two groups with the normal contrast version. With the low contrast version, the students in the control group performed about the same while the LD students did 10% better than they had on the normal version.

MILLS, JOSEPH R., & JACKSON, NANCY EWALD. (1990, September). Predictive significance of early giftedness: The case of precocious reading. *Journal of Educational Psychology, 82*, 410-419.

Investigates the long term achievement of children who had been judged to be precocious beginning readers in 1987. Fifty-nine 10- to 12-year-old children – judged by their kindergarten teachers as advanced readers – from five predominantly middle class school districts, were located for follow-up testing. Results suggested that extraordinary early achievement in reading predicts above average, but not necessarily extraordinary, ability in reading and related skill areas during the middle elementary school years, as assessed by the CAT, Level 18. Median CAT subtest scores were between one and two SDs above age-appropriate grade norms. Verbal Ability at 5 to 6 years of age predicted individual differences in precocious readers' later reading comprehension accuracy as well or better than did initial reading skills. General Reading Ability, Reading Speed, and Letter Naming Speed at ages 5 and 6 years were associated with speed in completing the reading comprehension subtest of the CAT.

EAVES, RONALD C.; VANCE, R. HUBERT; MANN, LESTER; & PARKER-BOHANNON, ANNETTE. (1990, October). Cognition and academic achievement: The relationship of the Cognitive Levels test, the KeyMath Revised, and the Woodcock Reading Mastery Tests-Revised. *Psychology in the Schools, 27*, 311-318.

Evaluates the ability of the CLT to estimate current achievement in mathematics as determined by the KeyMath Revised (KMR) and reading as assessed by the WRMT-R, for 38 children enrolled in kindergarten through twelfth grade at a small private school. Mean age was 10.7. Examinations were administered over a two-week period. Standard scores of the

KMR and WRMT-R were transformed to the standard score used by the CLT. All standard scores were derived from age norms rather than norms based on grade placement. The CLT scores were moderately correlated with the WRMT-R (.50 to .76) and highly correlated with the KMR (.70 to .87). Repeated-measures ANOVA identified a main effect for the CLT/WRMT-R scores. Follow-up comparisons revealed the CLT Verbal Reasoning mean was significantly greater than the WRMT-R Passage Comprehension mean. Results suggest evidence of the validity of using the CLT for estimating math and reading achievement.

BADIAN, NATHLIE A.; MCANULTY, GLORIA B.; DUFFY, FRANK H.; & ALS, HEIDELISE. (1990). Prediction of dyslexia in kindergarten boys. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 40, pp. 152-169). Baltimore, MD: Orton Dyslexia Society.

Follows up 163 kindergarten children at the fourth grade level to determine the best predictors of dyslexia. Subjects were from the middle to upper middle SES range and from suburban communities. All were males whose primary language was English, and all but three were white. All had Verbal or Performance IQs that were at least in the average range. At age 6, each subject was administered a battery including 35 neurophysiological, preacademic, neuromotor, and electrophysiological tests. The outcome measures administered at grade 4 included subtests of the Kaufman Test of Educational Achievement (Reading Decoding, Reading Comprehension, and Spelling), and the GORT-R. Stepwise regression analysis revealed six variables that produced the best predictive equation, with a cumulative multiple coefficient of correlation of .8 with reading. These were giving the sound associated with each letter (Sounds), giving the syntactically appropriate word deleted from a phrase (Grammatic Closure), rapid naming of numbers (RAN Numbers), naming of common objects pictured (Boston Naming Test), demonstrating on hand diagrams which fingers were touched (Finger Localization), and reciting the alphabet (Alphabet). Dyslexics and normal readers differed significantly on five of these variables, the exception being the recitation of the alphabet.

JANSKY, JEANNETTE JEFFERSON; HOFFMAN, MARTIN J.; LAYTON, JOAN; SUGAR, FRANCEE; & DAVIES, MARK. (1989). Prediction: A six-year follow-up. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 39, pp. 227-246). Baltimore, MD: Orton Dyslexia Society.

Assesses the prereading and reading performance of 370 predominantly Hispanic bilingual public school children over a period of six years in order to compare the factorial make-up and predictive validity of tests used to assess them. A 13-test predictor battery was administered to the children in their first grade year. Tests included the Bender Motor Gestalt Test, Gates Word-Matching Test, Letter Naming, Picture Naming, Binet Sentence Memory, the Roswell-Chall Word Blending, Segmentation, Berko Directions, Story Telling, Word Copying, Word Recall, Word Identification, and Word Spelling tests. Follow-up reading tests (CAT) were obtained at the end of second, third, fourth, fifth, and sixth (DRP) grade. Factor analysis of the pool of 13 tests showed a two-cluster battery structure, Prereading and Oral Language. These factors were similar to those found in an earlier study. Scores were relatively stable from year to year. Coefficients of correlation between the first five assessments, the Screening Instruments, decreased over time and produced a less close fit between prediction and outcome in the current study than in the earlier one. Overall predictive accuracy was about 83% across grades. However, the first five assessments misclassified many of the failing readers, as well as others who later read at grade level. Significant correlations between the Screening Index and later reading were carried by the children who received average or better scores on reading tests, rather than those at risk. The addition of eight new tests did not significantly improve prediction.

Morrison, Delmont; Mantzicopoulos, Panayota; & Stone, Elizabeth. (1988). Screening for reading problems: The utility of SEARCH. In R.F. Bowler (Ed.), *Annals of dyslexia* (Vol. 38, pp. 181-192). Baltimore, MD: Orton Dyslexia Society.

Evaluates the accuracy of SEARCH as a screening instrument for children at risk of developing learning problems. Subjects screened were 1,107 kindergarten children. Of these, 26% (284) were classified as at risk, scoring below the 33rd percentile on at least four of the nine subtests. A sample of at-risk and control children on whom SES and achievement data were available was subsequently examined for a concurrent validity study and for a study of the relation between SES and SEARCH scores. Data from the Kaufman Assessment Battery for Children, the SESAT, the CTBS, the CAT, and the SDRT were used to analyze False Positive error rate. SEARCH predicted preacademic reading skills in April and May of the same year with 77% accuracy. However, almost half identified as at risk performed adequately on group reading achievement tests. Of those identified as at risk in kindergarten, 39% at first grade and 66% at second grade performed at grade level on individually administered reading achievement tests. Fewer children from upper SES groups were evaluated as being at risk using the SEARCH instrument.

Weltner-Brunton, Susan L.; Serafica, Felicisima C.; & Friedt, Gary R. (1988, Winter). Is earlier better? Reading achievement and WISC-R stability in earlier vs. later identified students with learning disabilities. *Learning Disabilities Quarterly, 11*, 71-79.

Compares scores from the WRMT and WISC-R upon identification and over time in special education for early identified (grades 2-4) and later identified (grades 5-8) children with learning disabilities and examines the test-retest stability of WISC-R, Kaufman, and Bannatyne scores over time for LD students in special education. Subjects were 58 second through eighth grade children with learning disabilities attending a lower middle-income rural school district in the midwest. All identified students were assessed using the WISC-R; the Kaufman Verbal Comprehension, Perceptual Organization, and Freedom from Distractibility factors; the Bannatyne Spatial, Conceptual, and Sequential recategorizations; and the WRMT. No significant between-group differences were found at identification on WRMT scores, WISC-R scores, Kaufman factors, or Bannatyne recategorized scores. Significant group mean increases were noted for reading achievement and significant decreases in verbal ability. Moderate correlational stability was noted for all scores at identification and after three years in special education, regardless of the grade at which intervention began.

Anglum, Barbara S.; Bell, Michael L.; & Roubinek, Darrell, L. (1990, Fall). Prediction of elementary student reading achievement from specific home environment variables. *Reading Improvement, 27*, 173-184.

Determines the relation between reading achievement and social and literary variables of the home environment and determines what combination of these variables accurately predicts achievement. Parents (492) of first through sixth graders in one consolidated elementary school completed a survey. Six questions yielded social information on the subject and the family. Ten questions pertained to literary variables of the home environment. Achievement was assessed by the district administered ITBS and the reading and language arts subtests of the Missouri Mastery and Achievement Tests. Data were first analyzed by correlation, then stepwise multiple regression analysis was conducted to give a percent of variance for each prediction of reading achievement. Data were collapsed into three age groups: grades 1 and 2, grades 3 and 4, and grades 5 and 6. Parental education level was significantly correlated with reading achievement, while birth order and gender of child were not. Education of the father was the best single predictor of achievement at all grade levels. Predictive value of literary variables differed with the grade, but reading to the child before school entry and the variety of print materials in the home accounted for large amounts of the variance, as did visits to the public library, the frequency of seeing a parent reading for pleasure, and how often the parent and the child discussed the book the child was reading.

DREHER, MARIAM JEAN, & ZENGE, SARA D. (1990, September/October). Using metalinguistic awareness in first grade to predict reading achievement in third and fifth grades. *Journal of Educational Research, 84*, 13-21.

Compares the relations between metalinguistic awareness in first grade and reading achievement in third and fifth grades. The sample used in the five-year longitudinal study consisted of 98 randomly selected pupils. The pupil interviews were conducted in the first grade and focused on the children's understanding of the reading process; their ability to identify letters, words, and sentences; and their ability to define instructional terms used during reading lessons. In third and fifth grades, the same children were administered the CAT to assess reading comprehension and the Academic Aptitudes Test to determine an aptitude score. Results of the study suggest that metalinguistic awareness is a significant predictor of later comprehension performance even when aptitude is taken into account. The predictive validity remained significant as late as fifth grade.

DAY, KAAREN C., & DAY, H.D. (1991, January/March). The concurrent validity of four tests of metalinguistic awareness. *Reading Psychology, 12*, 1-11.

Investigates the concurrent validity of four tests of metalinguistic awareness: the Concepts About Print (CAP), the Written Language Awareness Test, the Test of Early Reading Ability (TERA), and the Linguistic Awareness in Reading Readiness Test. These tests were given to 30 kindergarten girls and 30 kindergarten boys in a within-subjects, counterbalanced design. Subjects were in the second semester of their kindergarten year, and ages ranged from 62 to 84 months. Pupils were from the classrooms of nine teachers in four elementary schools in a suburban school district. Each child received each of the four tests on a different school day over a 30-day period. Girls scored significantly higher than the boys on the CAP. Variance for boys was significantly larger on the TERA than for girls. Intercorrelation coefficients of the total and subtest scores indicated that these four tests exhibit generally low concurrent validity, suggesting that the tests do not assess the same facets of metalinguistic awareness or reading readiness.

JORDAN, BRIAN T., & JORDAN, SUSAN G. (1990, Fall). Jordan Left-Right Reversal Test: An analysis of visual reversals in children and significance for reading problems. *Child Psychiatry and Human Development, 21*, 65-73.

Reports the development and validation of the newly revised Jordan Left-Right Reversal Test. Subjects were 3,000 children aged 5 through 12 in public and parochial schools representing different socioeconomic levels. Subjects in the initial administration were free of mental retardation or learning disabilities. Tests were untimed and were administered in group settings. Tests were scored for letter, number, and whole word errors, and summed for totals. Main effects of sex and age were significant. Younger children made more reversal errors. Boys made more errors than girls. Findings were then validated on 250 children previously identified as having learning disabilities who attended private schools where full diagnostic assessments were made by qualified professionals. LD children in all age categories made significantly more reversal errors. A second group of 35 children was chosen from regular classroom settings. They received the Reversal Test and the Bender Gestalt Test. The average readers scored significantly fewer errors on the Reversal Test and the Bender Gestalt Test than did the below average readers. Test-retest coefficients of reliability ranged from .60 to .94, and were all statistically significant ($p < .001$).

Zbornik, John J., & Wallbrown, Fred H. (1991, Spring). The development and validation of a scale to measure reading anxiety. *Reading Improvement, 28*, 2-13.

Reports the development and validation of a new instrument to measure reading anxiety. Subjects were 436 intermediate pupils enrolled in six parochial schools: 140 fourth graders, 162 fifth graders, and 134 sixth graders. Instruments administered were the Reading Anxiety Scale (RAS), a 45-item self-report inventory developed to assess fears of curiosity, aggression, and independence; and the Child Anxiety Scale to provide a measure of general anxiety. Data from the Cognitive Abilities Test and the ITBS were taken from school records. A factor analysis of the RAS suggested a generalized reading anxiety dimension as well as the three subfactors of fear of curiosity, aggression, and independence. Reading anxiety showed a stronger negative correlation with reading achievement than did general anxiety. While reading anxiety and general anxiety correlated significantly, reading anxiety seemed to assess different attributes beyond general anxiety.

Côté, Camille, & Leide, John E. (1989, Winter). Reading and formal thinking in Quebec high school students. *Adolescence, 24*, 957-963.

Determines whether there is a correlation between students' scores on a test of formal thinking (a test of exercises in combinations, permutations, logical propositions, mathematic proportions, and graphic sequence problems) and a reading test measuring speed, comprehension, precision, and vocabulary. Tests were administered to 263 secondary V students in two private and two public Canadian schools. Average score on combinations and permutations was 75%; logical propositions, 57%; mathematic proportions, less than 50%; and graphic sequence, 65%. Average reading speed was 166.6 words per minute, while average comprehension score was 47.1%. On vocabulary 45% scored above 65%. There was a relatively low coefficient of correlation (coefficient not given) between the scores on the formal thinking and reading tests.

Smith, Lawrence L., & Joyner, C. Rosanne. (1990, Summer). Comparing recreational reading levels with reading levels from an informal reading inventory. *Reading Horizons, 30*, 293-299.

Compares scores from an informal reading inventory for 20 second graders and 20 fifth graders to see if observed recreational reading levels determined from calculating the readability levels of three freely selected library books relate to the independent, instructional, or frustration levels determined from testing. Second grade pupils selected books for recreational reading within their assessed independent reading level 40% of the time, within their instructional level 27% of the time, and at their frustration level 33% of the time. Fifth graders selected recreational reading books within their independent reading level 42% of the time, within their instructional level 30% of the time, and at their frustration level 28% of the time. The authors suggest that it is inappropriate to equate the level of materials for recreational reading with the independent reading level determined from an inventory.

Margolis, Howard, & McCabe, Patrick P. (1988, Summer/Fall). Danger: The continued use of norm-referenced tests to place students in reading materials. *Journal of Clinical Reading, 3*(1), 7-9

Surveys elementary school teachers regarding the use of norm-referenced tests to place students in basal materials. The sample included 28 rural teachers and 37 suburban teachers from two states. The mean year of teaching experience was 15.8 for suburban teachers and 8.72 for rural. The majority of teachers polled held a master's degree. Based on a 5-point Likert scale, responses indicate that teachers rely on standardized tests to group students and that 35% of the teachers were not aware of problems with these practices.

READ, JOHN. (1988, December). Measuring the vocabulary knowledge of second language learners. *RELC Journal, 19*, 12-25.

Reports the development of the Vocabulary Levels Test, a diagnostic instrument to assess the number of words known by second language learners who are preparing to study in New Zealand universities. Discussion deals with methodological problems in trying to determine vocabulary size, and procedures for developing and administering the test with a group of learners at Victoria University, Wellington, New Zealand. The Vocabulary Levels Test uses a matching format to measure knowledge of words at five frequency levels and for general and academic vocabulary. Words were selected on the basis of frequency data in the Thorndike and Lorge list and crosschecked against the General Several List and the Kucera and Francis list. Words at the university level were selected from a specialized count list which excluded the first 5,000 words of Thorndike and Lorge. An alternative measure, the checklist, is also introduced, where learners are presented with a list of words and told to check each word that they know. Problems with the instrument and possible ways to correct for these problems are demonstrated.

STATMAN, STELLA. (1988). Ask a clear question and get a clear answer: An enquiry into the question/answer and sentence completion formats of multiple choice items. *System, 16*, 367-376.

Presents theoretical bases and subsequent investigations exploring which of two ways of testing reading comprehension is more authentic and valid for testing foreign learners of English: giving a question with one of four distractors stating the correct answer or giving a sentence stem which a testee has to complete by choosing from among four distractors. Subjects were two groups in an EFL program at an Israeli university. Both groups of 25 received the same texts and then received the differing test question conditions. Those who had the question/answer format rather than the stem/completion scored higher. Informal student reports suggested the question/answer format was easier than the stem/completion format.

FRIEDMAN, STEPHEN J., & ANSLEY, TIMOTHY N. (1990, Summer). The influence of reading on listening test scores. *Journal of Experimental Education, 58*, 301-310.

Investigates the hypothesis that as the amount of reading required for a listening test increases, the resulting score represents a confounding of reading and listening abilities. Three different listening assessments accompanied by answer sheets requiring varying amounts of reading were scored for 792 subjects in grades 3 through 8 in six schools. Heterogeneity of ability was determined by performance on the district-administered ITBS. Test items were taken from the ITBS Listening Supplement, an adaptation of the Brown-Carlsen Listening Comprehension Test, and from items developed to assess some of the skills mentioned in the most current definitions of listening as advocated by many current professional groups. Average listening scores for each group tended to increase as printed information was added to the answer sheets, supporting the hypothesis that reading ability might be a factor in the responses to listening test items.

RUNYAN, M. KAY. (1991, February). The effect of extra time on reading comprehension scores for university students with and without learning disabilities. *Journal of Learning Disabilities, 24*, 104-108.

Investigates the effect of extra time on the ability of university students to complete a standardized reading comprehension test. Subjects were 15 students identified as normally achieving and 16 as having learning disabilities. Students took Comprehension and Reading Rate sections of the NDRT. Subjects were not told how much time they had to complete the test, but they knew that the first minute would be used for rate assessment. One score was obtained at the end of 20 minutes and a second when the test was completed. Amount of extra time needed to complete the test was recorded. LD students scored significantly higher when given extra time. No differences were found for normally achieving students. With extra time, there was no significant difference for the comprehension score between the two groups of students and scores were similar to those of normally achieving subjects under timed conditions.

V-14 Technology and reading instruction

TORGESEN, JOSEPH K.; WATERS, MARY D.; COHEN, ANDREW L.; & TORGESEN, JEFFERY L. (1988, Spring). Improving sight-word recognition skills in LD children: An evaluation of three computer program variations. *Learning Disabilities Quarterly, 11*, 125-132.

Compares the effectiveness of three different versions of a computer program designed to assist LD children with sight-word learning. Subjects were 17 children from grades 1, 2, and 3, who were classified as LD. During the experiment, subjects were exposed to three different treatment conditions as well as a no-treatment condition through a multielement baseline design. A set of 10 words was presented in each treatment condition: (1) visual only, in which each word was accompanied by a pictorial cue of the word alone; (2) visual-auditory, in which each word was accompanied by a pictorial and speech cue of the word; and (3) auditory alone, in which speech cue alone accompanied the word. Response speed and accuracy in recognizing words presented in each treatment condition was compiled for each child. A 2 (pre- vs post-) x 4 (treatment conditions) repeated measures ANOVA applied to the data revealed no significant differences in the effectiveness of the three conditions, with all effecting significant improvement in speed and accuracy of word recognition.

LINK, NINA, & CHEROW-O'LEARY, RENEE. (1990). Research and development of print materials at the Children's Television Workshop. *Educational Technology, Research, & Development, 38*, 34-44.

Describes case studies of how research influences reformatting of a magazine, selection of materials, and provision for story appeal and material comprehensibility. A variety of questionnaires, surveys, and interview formats have been used with children of various ages as well as their parents by the research department of the Children's Television Workshop (CTW) magazine group. The case studies speak to the pragmatic focus of CTW magazine research and to its aims of providing printed materials that are developmentally sound, attractive, and informative.

NEUMAN, SUSAN B. (1989, Summer). The impact of different media on children's story comprehension. *Reading Research and Instruction, 11*, 38-47.

Investigates the impact of different media presentations on children's story comprehension. The purpose of the study was to analyze whether a combined media approach influences the way in which a story is remembered and understood. Forty-four third graders (male=22; female=22) were assigned randomly to one of three story medium combinations: a televised story followed three days later with a repeated presentation in the same medium; a televised story followed by an illustrated storybook; and the illustrated storybook followed by the illustrated storybook. A 10-item multiple-choice vocabulary test using words from the story was administered as a pretest. To assess children's spontaneous recall, all subjects were asked to retell the story following the second session. Retellings were analyzed by an adapted measure of story structure elements. Each child's retelling was also scored for the presence of expressive language. A cued recall measure followed the spontaneous retelling. Each of the dependent measures–free recall, expressive language, and cued recall–was subjected to an ANCOVA, with medium of book presentation and gender as between-subject factors, and the vocabulary score pretest serving as a covariate in the analysis. Results indicated no statistically significant differences among groups for retellings, expressive language, or cued recall. Findings suggested that the communication medium alone by which a narrative is conveyed may have little importance for comprehension.

NEWELL, ALAN F.; BOOTH, LYNDA; & BEATTIE, WILLIAM. (1991, January). Predictive text entry with PAL and children with learning difficulties. *British Journal of Educational Technology, 22*, 23-40.

Evaluates the usefulness within a classroom environment of a predictive computer program developed at a UK university. The program, PAL, was designed to improve the efficiency with which physically handicapped people can generate text by reducing the number of character entries necessary to produce written text. Program effects were evaluated through case studies of nine children, ages 8 to 18, five of whom had cerebral palsy. After a total of four hours of training, primary children used the computer for all their work in written English and environmental studies. Secondary pupils used the program across subject areas and at home. Teachers kept a diary of the children's work using the program, and researchers visited the schools weekly. In eight cases, the program was found to have successful effects: For children with poor motor control, the key-saving aspects speeded up text creation by reducing the number of necessary keystrokes, and children with severe spelling problems produced higher quality written work and reduced spelling errors. With the younger children, there was some evidence of improvement in unaided written work. Through questionnaires, school staff indicated the program stimulated children's confidence and motivation, as well as their language and vocabulary development.

DAVIDSON, JOHAN; COLES, DAVID; NOYES, PETER; & TERRELL, COLIN. (1991, May). Using computer-delivered natural speech to assist in the teaching of reading. *British Journal of Educational Technology, 22*, 110-118.

Evaluates, in a four-week pilot study, computer software designed to aid beginning readers in the acquisition of reading skills. Two questions are of specific interest: (1) Is digitized speech intelligible to children? (2) Does computer speech feedback facilitate sight-word learning? Subjects were 20 children from two primary schools in Cheltenham: 10 children in the experimental group and 10 in the control group. All subjects were judged by their teachers as being at the readiness stage of learning to read. Experimental subjects saw, on a computer screen, pages from their school reading program. At the children's request, unknown words or texts were given by the computer in the form of digitized speech. Control subjects read the same stories from their readers and received instruction from their teachers as usual. Pre- and posttests of intelligibility were administered to subjects by giving them words either by headphone or from their teachers, and having them repeat the words. Reading performance was evaluated through pre- and posttest administration of the British Ability Scales Word Recognition Tests, a list of the 30 words occurring most frequently in written English, and a list of words from their published program. Statistical analyses indicated children perceived digitized speech as only slightly less intelligible than the teacher. Significant gains in reading for the experimental group were observed only on the standardized test.

THOMPSON, RICHARD A. (1990, July). The relative effectiveness of computer assisted instruction (CAI) for teaching students to read in English. In Betty Anderson (Ed.), *Teacher education for literacy around the world* (pp. 71-82). St. Cloud, MN: Organization of Teacher Educators in Reading.

Summarizes the findings of over 60 studies examining the effectiveness of CAI. Results of 3 out of 36 studies pertaining to CAI and generalized reading achievement favored use of CAI. CAI was also revealed to have a favorable impact on phonics achievement in 3 out of 7 studies. Comprehension achievement was benefited by CAI in 4 out of 8 studies. Available evidence (3 out of 3 studies) indicated CAI is advantageous in promoting higher reading achievement in deaf students, but not so strongly for LD students (2 out of 5 studies).

BEAN, RITA M., & WILSON, ROBERT M. (1989, Summer). Using closed captioned television to teach reading to adults. *Reading Research and Instruction, 28*, 27-37.

Studies the effects of closed captioned television in teaching sight words to adults. Subjects were 24 students enrolled in an adult basic literacy program. Stratified random assignment procedures based on CAI reading comprehension scores were used to assign students to one of three instructional conditions: closed captioned with instruction, script with instruction, or closed captioned without instruction. A list of 30 words to be presented to each subject over five instructional sessions was administered as a pre- and posttest. A word recognition test and a fluency measure also were administered individually following each instructional session. After the final session, subjects completed a survey to determine their attitude toward the approaches used. ANOVA procedures applied to the pre/post word recognition test indicated that, while all students made significant progress in sight-word learning, there was no significant difference in amount of learning across conditions. An ANOVA with repeated measures revealed no significant differences across conditions on word recognition and fluency measures; however, the group exposed to closed captioned television without instruction was most successful in reaching a specific criterion on weekly sight-word tests. Results of the attitude survey strongly supported the closed captioned medium in working with adults.

REINKING, DAVID, & RICKMAN, SHARON SALMON. (1990, December). The effects of computer-mediated texts on the vocabulary learning and comprehension of intermediate-grade readers. *Journal of Reading Behavior, 22*, 395-411.

Investigates whether intermediate grade readers' vocabulary learning and comprehension would be affected by reading texts from a computer screen that provided the meanings of difficult words. Subjects were 60 sixth graders who read two informational science passages containing 32 difficult target words and then completed multiple-choice comprehension items and a 32-item vocabulary test. In two conditions, subjects read the passages on printed pages accompanied by either a dictionary or a glossary containing the target words. In two conditions, subjects read the passages on a computer screen that provided either optional or mandatory assistance with the meaning of the target words. On a test measuring subjects' knowledge of target words, subjects who read the passages at the computer scored significantly ($p < .001$) higher on vocabulary. Statistically significant differences were also found on the comprehension test. Those who had mandatory assistance outperformed the other subjects. Subjects free to choose words they would investigate did so more often when using the dictionary or the glossary.

KOLICH, EILEEN M. (1991, January/February). Effects of computer-assisted vocabulary training on word knowledge. *Journal of Educational Research, 84*, 177-182.

Compares the effectiveness of three approaches to computer-assisted vocabulary instruction on high school students' acquisition of word meanings. Subjects were 171 eleventh graders from 14 heterogeneously grouped English classes in one rural school. Students were randomly assigned to one of four treatment groups in which they were taught the meanings of 15 low-frequency words via computer using a word-definition sequence (the definitional approach), a word-sentence sequence (the contextual approach), or in a game format (the arcade approach). Word learning was assessed by a multiple-choice test and a sentence completion test, both of which were used on a posttest-delayed posttest basis. ANOVA for repeated measures revealed significant differences between means of treatment groups on both the posttest and the delayed posttest. Pairwise comparisons of the means using the Tukey procedure revealed the contextual approach resulted in significantly higher scores on the posttest than did the definitional or arcade approaches. There was no significant difference between the contextual and mixed approaches. Delayed posttest results indicated no one approach as superior to another.

FELDMANN, SHIRLEY C., & FISH, MARIAN C. (1991). Use of computer-mediated reading supports to enhance reading comprehension of high school students. *Journal of Educational Computing Research, 7*, 25-36.

Investigates whether computer-mediated reading supports facilitate comprehension of a difficult text. Subjects were 99 high school students enrolled in two urban high schools who had average to below average reading ability in relation to their current grade placement. Subjects read two experimental passages on a Tandy 1000 computer and answered seven multiple-choice questions. One passage was considered easy to comprehend and the other was considered difficult. Reading supports included definitions of six vocabulary words used in the text, and a main idea for each paragraph of each passage. Subjects could press keys for help in either area after the text had been presented one time. Subjects completed a survey eliciting perceptions of the features of the experimental task. Three questions focused on ease or difficulty, and three focused on procedures specific to reading from the computer. Students also completed a modified version of the Test of Adult Basic Education, with scores used as a covariate in a one-way ANCOVA. No significant reading support effects were found in the analyses. No differences were found in higher or lower readers' perceptions of the value of reading supports. The number of supports requested was significantly higher for high difficulty passages than for lower difficulty materials.

KEENE, SYLVIA, & DAVEY, BETH. (1987, Fall). Effects of computer-presented text on LD adolescents' reading behaviors. *Learning Disability Quarterly, 10*, 283-290.

Assesses the effects of computer-displayed text on the reading comprehension, strategic behaviors, task-completion time, and attitudes toward the reading task of 51 high school students who were classified as LD. Students were randomly assigned to read two expository passages about animals. Half read at the computer and half from a similarly formatted printed page. Subjects were encouraged to use six strategies as often as necessary to help them comprehend. Strategies included: look back, look ahead, ask questions about what is read, say words to yourself, notice the underlining of topic sentences, and form mental pictures. Total time spent interacting with passages was recorded. Subjects were assessed on comprehension of the passage immediately after reading and one week later. They were assessed on their use of the strategies, and their attitudes toward the task. Attitudes were more favorable in those users who read at computers. Computer display did not affect comprehension or time on task. Immediate testing yielded higher comprehension scores than delayed testing. Of the six strategies, computer use only facilitated the look-back text strategy.

AHVENAINEN, OSSI. (1991, Spring). Computer-based reading instruction for special education students in Finland. *Journal of Reading Education, 16*, 53-61.

Presents a review of the Comprehensive School Act of 1983 which established procedures for the education of children with special needs in Finland and reports the numbers of Finnish students receiving special education instruction during the school year 1987-1988. Advocates cooperative research and well-planned teacher training incorporating information technology and summarizes some of the uses of computers in elementary reading and language arts instruction. Reports a ministudy at the university using the Speaking Commodore 64 with differing students where 83% to 95% of the pupils found the software motivating and 45% to 64% wanted to work at the computers in their free time. Two out of three special education teachers surveyed considered information technology useful for their work in special education.

VI. Reading of atypical learners

VI-1 Visually impaired

LEGGE, GORDON E.; ROSS, JULIE A.; LUEBKER, ANDREW; & LAMAY, JAMES M. (1989, December). Psychophysics of reading. VIII. The Minnesota Low-Vision Reading Test. *Optometry and Vision Science, 66*, 843-853.

Describes the Minnesota Low-Vision Reading Test (MNread), a computer-based test whose purpose is to offer a simple, quick, and accurate estimate of a low-vision person's maximum reading rate. MN has four subtests and uses 28 sentences and 11 unrelated words for testing. Subjects are instructed to read aloud as rapidly as possible and are pushed to read faster until they reach a rate at which occasional errors are made. Reading rate in wpm is computed as the number of words correctly read, divided by the exposure time. Rate was measured for both drifting and static rates. Data are presented for 147 low-vision subjects, with 22 of these subjects retested from one month to one year later. Test-retest coefficient of correlation on sentence reading rates was .88. Silent rate was also determined, using a variant of the unrelated-words test. Rates did not vary significantly between silent and oral reading for 5 normal subjects. Six normal subjects were tested and tended to read static text more rapidly than drifting text, but 27 low-vision subjects used for this part of the experiment read drifting text about 15% faster than static text.

STELMACK, JOAN; REDA, DOMENIC; AHLERS, STEVEN; BAINBRIDGE, LINDA; & MCCRAY, JANA. (1991, January). Reading performance of geriatric patients postexudative maculopathy. *Journal of the American Optometric Association, 62*, 53-57.

Focuses on reading performance of geriatric patients with postdisciform stage exudative age-related macular degeneration to evaluate differences in reading speed and duration of comfortable reading speed using spectacle reading glasses, illuminated stand magnifiers, and closed circuit television (CCTV). Subjects were 37 patients receiving low-vision services while undergoing blind rehabilitation. All were 50 years of age or older and were randomly assigned to the treatment groups, with each patient serving as his or her own control while tested with all three devices. Silent reading speed was determined from passages selected from the *Reader's Digest*. Five general questions were asked to assess comprehension. Rate of reading on the devices was compared using ANOVA procedures. Mean reading speeds were 32.2 wpm with the illuminated stand magnifiers, 46.9 wpm with the spectacle lenses, and 59.9 wpm with CCTV. Mean reading duration was longest with CCTV, 28.6 minutes, with a range from 3.4 minutes to 240 minutes.

HJELMQUIST, E.; JANNSON, B.; & TORELL, G. (1990, May). Computer-oriented technology for blind readers. *Journal of Visual Impairment and Blindness, 64*, 210-215.

Studies the reading of a daily newspaper transmitted into the homes of 29 visually handicapped subjects in Sweden. Subjects were between the ages of 23 and 79, with 21 reporting that they had read ordinary newspapers for periods of time when they were sighted. The technique reported here permitted the transmission of the daily newspaper into the home with the use of speech synthesis. The experiment was conducted over a four-month period and was evaluated by interviews with participants and by automatic registration of command use by subjects. Interview data revealed that the initial reactions were positive. Participants felt that one of the greatest advantages was that the equipment permitted them to select what they wanted to read. Almost all of the subjects preferred the speech synthesizer newspaper over the casette newspaper previously used. Few participants reported any major problems in using the commands for listing, moving to articles, or moving to any of the major categories from which they could select. A mean of about 50 minutes per day was spent in reading the newspaper, with about 5% of the total contents read.

CORN, A., & RYSER, G. (1989, September). Access to print for students with low vision. *Journal of Vision Impairment and Blindness, 83*, 340-349.

Reports on questionnaire data obtained from teachers relative to factors relating to efficient reading of print with various devices by children with low vision, and teachers' confidence in using optical devices. Questionnaires were completed by 109 teachers, with slightly over one-third from a state school for the blind. Most of the teachers (86%) reported they felt confident about instructing students with one or more optical devices. The three devices for which teachers expressed the most confidence in providing instruction were hand-held and stand magnifiers, hand-held monoculars, and closed circuit television. Slightly over one-third of the teachers reported that they had difficulty in obtaining large-type materials for their students; almost one-fourth reported difficulty in obtaining optical devices for students. Teachers also were asked to return student questionnaires for each student who had low vision and was being taught to read with print; 351 such questionnaires were returned for students 4-22 years of age. Of this number, 50 were reported as LD. Teachers indicated that 153 of the students were being served by a consulting teacher, 159 received itinerant services, and 52 attended the state school for the blind. Reading levels of students using optical devices with regular print increased significantly as they progressed through the grades. Reading speeds of those using optical devices increased with years of schooling, but speed of those using large type print materials appeared to reach a plateau. There were no significant differences in the fatigue factors associated with optical devices or with large-type materials. Only 20.8% of teachers reported that their districts required a low vision clinical evaluation for all students with low vision. When reading levels for all groups were examined, 35% of students who used optical devices were reading at an eighth grade level or higher, but only 15.5% of those using large-type materials were doing so.

VI-2 Hearing impaired

SCHIRMER, BARBARA R., & BOND, WENDY L. (1990, Winter). Enhancing the hearing impaired child's knowledge of story structure to improve comprehension of narrative text. *Reading Improvement, 27*, 242-254.

Sets out to determine whether hearing-impaired children can internalize story structure through nonexplicit instruction and use the knowledge to understand narrative text. Subjects were four prelingually hearing-impaired children between the ages of 10.11 and 11.11. Reading levels on the GMRT ranged from 1.7 to 3.7 and on an informal inventory, children were reading at third grade level. At the beginning and at the end of the instructional intervention, subjects were given a story to reread and their retellings were videotaped. Retellings were analyzed for propositions included and matched to story propositions. During the 45-minute reading period, instruction followed a Directed Reading Thinking Activity model followed by questions related to the structure of the story. Eleven stories were read during the intervention period. In addition, beginning with the fourth week of the instructional intervention, pupils were asked to write a story from sets of picture stimuli. Written stories then were analyzed to determine the number of major story elements included. This number was then compared with the six major constituents of the story structure instruction. All four children included a greater number of story propositions and story structure elements in their retellings and wrote better formed stories at the end of the study. Improvement also occurred in answering questions.

CONWAY, DAVID. F. (1990, December). Semantic relationships in the word meaning of hearing-impaired children. *Volta Review, 92*, 339-349.

Seeks to describe the amount, type, and complexity of the semantic relations expressed in the word meanings of hearing-impaired children. Subjects were 56 profoundly hearing-impaired children between the ages of 6 and 11. Pupils were assigned to the Younger Hearing-Impaired Group (below age 9) or the Older Hearing-Impaired Group (over age 9). All were of at least average intelligence with no reported learning handicaps, all were making satisfactory progress in the educational program for hearing-impaired children, and all had an onset of hearing loss prior to 24 months of age. Subjects were presented with 10 common nouns and asked a series of questions to elicit what they knew about each word. Responses were classified into 28 semantic relationship categories. Six relational categories accounted for almost 70% of the responses in both the younger and older groups, with 5 of the relational categories in common. The groups did not differ significantly on the types or the complexity of relations expressed. Definitional abilities were at a relatively immature level, although a variety of semantic relations were expressed.

GRIFFITH, PENNY L.; RIPICH, DANIELLE N.; & DASTOLI, SONDRA L. (1990, Spring). Narrative abilities in hearing-impaired children: Propositions and cohesion. *American Annals of the Deaf, 135*, 14-19.

Analyzes the use of propositions and cohesive devices in story recalls of five primary and six intermediate level hearing-impaired children. Children were individually presented with three stories and told to listen, watch, and remember so that each story could be told to a friend. Three story conditions were presented: easy structure, complex structure, and complex structure with pictures. All stories were presented simultaneously in both signs and speech. In addition, children were shown a five-picture sequence and told to make up a story to go with the pictures. Following each presentation, a hearing-impaired child was invited into the room and subjects were to tell the made-up story or retell the other stories to that child. Presentations were videotaped and transcribed exactly as signed/spoken and scored for propositions and cohesion devices. Recalls were significantly shorter than those found earlier for normal hearing subjects. Children generated mostly complete propositions when stories were simple; as complexity increased, semantic errors resulted in fewer complete propositions. The analysis of cohesive devices indicated that the hearing-impaired children had limited knowledge of how to give referential information and how to connect parts of the story for a listener.

ROGERS, DEBORAH. (1990, September/October). "Show-me bedtime reading": An unusual study of the benefits of reading to deaf children. *Perspectives for Teachers of the Hearing Impaired, 8, 2-5.*

Describes and presents information on an intensive story program used with primary age residential deaf pupils. Awarded an incentive grant, the teacher/researcher used the funds to purchase books and set up a dormitory library. Adults came in four nights a week to read bedtime stories to individual children. Nine children between the ages of 5 and 9 participated. Parents were encouraged to continue the bedtime reading at home on weekends and during vacation periods. In some cases, sign language was used to read to the children. Children demonstrated an average gain of 24% on correct responses on the Assessment of Children's Language Comprehension and 29% gain on the Grammatical Analysis of Elicited Language, Presentence Level. Pre- and postvideotapes were made of each child in a 50-utterance spontaneous language sample. The final language sample is stated as being more coherent and displaying more sophisticated content.

ANDREWS, JEAN F., & MASON, JANA M. (1991, May). Strategy usage among deaf and hearing readers. *Exceptional Children, 57*, 536-545.

Examines strategy usage among deaf and hearing youths. Subjects included 5 deaf males, ages 17 to 20; 5 elementary age hearing boys, ages 8 to 11; and 5 LD males, ages 14 to 18. All groups included individuals whose reading levels ranged from second to sixth grade. Seven expository passages were selected from materials designed for grades 1 through 7. Subjects read three texts: one at, one above, and one below their reading level. One or two sentences of the passage appeared on each page, with a word or phrase deleted. The following page contained the sentence from the previous page with the deletion filled in plus a new sentence with a deletion. Subjects were to indicate what the missing word or phrase might be and were asked to explain their decision. Students' reports were categorized and yielded six strategies: background knowledge, rereading, looking back, looking ahead, contextual cues, and identifying cues from the title. Word replacement scores also were scored. Elementary age pupils scored 61% correct; LD students, 50%; and deaf students, 32%. Examination of strategy type revealed that the deaf group used 3.8 different strategies, and the other two groups used 4.7 different strategies. For all three groups background knowledge was the most frequently used strategy, followed by rereading the sentence and looking back. Deaf readers used context clues infrequently and never reported using the title of the passage, whereas the hearing groups did use these strategies.

VI-3 Mentally retarded

BARUDIN, STUART I., & HOURCADE, JACK J. (1990, September). Relative effectiveness of three methods of reading instruction in developing specific recall and transfer skills in learners with moderate and severe mental retardation. *Education and Training in Mental Retardation, 25*, 286-291.

Assesses the relative effectiveness of three reading procedures in teaching individuals with moderate and severe mental retardation. Subjects were 32 students with a mean IQ of 41.2 (range = 27 to 54), ranging in age between 9.5 and 21 (mean = 14.8 years). Subjects were randomly assigned to one of four groups, with each group of eight then randomly assigned to serve as one of three experimental conditions or a control group. The three experimental conditions were designed to represent three approaches to reading instruction: a visual sight-word approach, a fading approach, and a tactile-kinesthetic approach. In each condition, learners were instructed in each of 10 treatment words for two minutes. After every second word, a novel transfer word based on the preceding two words was presented and subjects were asked to identify it. Training was carried out over a four-day period. The total number of treatment words successfully recalled at the end of each day's training was recorded, and the cumulative number of words recalled was analyzed. Each of the experimental approaches resulted in significantly greater recall than did the control condition, but no one instructional approach was significantly superior to any other. However, by the final day, both the fading and the tactile-kinesthetic approaches demonstrated enhanced effectiveness over the sight-word approach for recall. No significant differences were noted in the acquisition of reading new untaught words.

EZELL, HELEN K., & GOLDSTEIN, HOWARD. (1991, February). Observational learning of comprehension monitoring skills in children who exhibit mental retardation. *Journal of Speech and Hearing Research, 34*, 141-154.

Investigates the acquisition of comprehension monitoring skills in children with mental retardation and examines the effects of the children's requests for clarification on subsequent learning of idioms. Subjects were five children ranging in age from 7 to 10 years and diagnosed as having either mild or moderate mental retardation based on Stanford-Binet scores. Subjects were assessed with the following measures: (1) PPVT, (2) the Expressive One-Word Picture Vocabulary Test, (3) the Test of Language-Development-Primary, (4) a 40-item comprehension monitoring screening measure containing 20 adequate instructions and 20 inadequate instructions, (5) a 20-item verbal imitation screen measure, (6) an auditory processing task, and (7) a picture recognition screening measure. Training stimuli consisted of oral instructions that were considered either adequate or inadequate in content and presentation. Instructions were inadequate because of an interfering signal, an unfamiliar word, an unfamiliar idiomatic phrase, or excessive length. Children received training in comprehension monitoring. Peers served as models during training. All children learned to request clarification of the first three inadequate instructions, but none of them learned to request clarification of idiomatic phrases. While all children eventually showed observational learning, three children required feedback from the trainer before they began to request clarification for one or two of the instruction types. Two subjects generalized their requesting behavior to the interfering signal message type, suggesting that generalization may be likely to happen between similar message types. At posttesting, all subjects generalized their requesting behavior when presented with two unfamiliar message types. Four of the subjects generalized their requesting behavior in sessions with teachers 5 to 10 weeks later.

MERRILL, EDWARD C., & BILSKY, LINDA H. (1990, July). Individual differences in the representation of sentences in memory. *American Journal of Mental Retardation, 95*, 68-76.

Compares mentally retarded and nonretarded individuals on the ability to recall single sentences using a cued recall procedure. Subjects included 33 mildly retarded adolescents (mean IQ = 62.9; mean CA = 15.2), 33 nonretarded fourth graders, and 33 nonretarded tenth graders. Subjects received two 24-sentence lists and one of three equivalent forms of a 24-item cued recall test constructed for each list. Each cue consisted of one or two words with one-third of the cues providing only the object noun of the original sentence, one-third providing only the verbs, and one-third providing both the subject nouns and the verbs from the original sentences. Sentences were presented orally at the rate of one sentence per five seconds, while subjects followed along in the study booklets. After all sentences in a booklet had been presented, subjects were given the accompanying test booklet and were to fill in all of the missing parts of the sentence. Performance for all groups was best when they were given both subject and verb cues. Retarded subjects showed the smallest advantage of the three groups for the two word cues over the single word cues, while equal CA subjects showed the greatest advantage.

CHAPMAN, ROBIN S.; BIRD, ELIZABETH KAY-RAINING; & SCHWARTZ, SCOTT E. (1990, November). Fast mapping of words in even contexts by children with Down's syndrome. *Journal of Speech and Hearing Disorders, 55*, 761-770.

Compares fast mapping skills of children and adolescents with Down's syndrome and normally developing children. Participants were 48 Down's syndrome children and adolescents, ages 5.6 to 20.6 who were developing language normally and 48 normally developing children matched for nonverbal mental age (CA = 2 to 6) as determined by subtests on the Stanford-Binet. All subjects participated in a three-hour protocol that included (1) a hearing screening test, (2) picture descriptions, (3) story retelling, (4) the PPVT-R, (5) conversation and narration with the examiner, (6) the fast mapping task, (7) several subtests of the Stanford-Binet, (8) conversation and snack with a parent, (9) a speech motor evaluation, (10) delayed story recall, (11) event narration, (12) the Test for Auditory Comprehension of Language, and (13) the delay condition of the fast mapping task. In the fast mapping task, children were asked to hide objects, including a novel one, and then to participate in tasks testing their comprehension of the novel object's name, their production or recognition of the name, and their memory for the location of the novel object. The two groups did not differ in their ability on any of the tasks. It was concluded that fast mapping skills were unrelated to expressive language deficit in the Down's syndrome children.

VI-4 Neurologically impaired/brain damaged

RIDDOCH, JANE; GUMPHREYS, GLYN; CLETON, PING; & FERY, PATRICK. (1990). Interaction of attentional and lexical processes in neglect dyslexia. *Cognitive Neuropsychology, 7*(5/6), 479-517.

Examines two cases of patients showing reading specific neglect, i.e., the tendency to neglect the side of the words contralateral to the side of the lesion. In particular, the study looks into whether neglect dyslexia can be affected by manipulations of attention. The two males displayed qualitatively similar problems in reading, although they differed quantitatively in terms of the exposure durations under which neglect dyslexia was manifested. Both made primarily substitution errors to the left-hand letter in words, tending to miscall the word as a neighbor of similar length. The neighborhood effect was defined according to the number of other words created by substituting one letter at any position in the word. They performed better with words than with nonwords, and they found words with many orthographic neighbors more difficult to identify than those with few orthographic neighbors. These latter findings are in contrast to some patients. The patients were susceptible to attempts to manipulate the locus of attention. The authors argue that neglect dyslexia may result from a failure in the interplay between lexical and attentional processes in word recognition.

BEHRMANN, M.; MOSCOVITCH, M.; BLACK, S.E.; & MOZER, M. (1990, August). Perceptual and conceptual mechanisms in neglect dyslexia. *Brain, 113*, 1163-1183.

Contrasts the contribution of peripheral, data-driven effects with conceptual, top-down effects on the reading performance of two subjects with neglect dyslexia following a single right hemisphere lesion. Subjects were both males (one 61 years old, the other, 70) who demonstrated hemispatial neglect following a single right hemisphere stroke. The general left-sided neglect demonstrated by both subjects was not restricted to any one modality. A series of tests was administered. Sixty words of three to seven letters in length and 60 matched pronounceable nonwords were given individually in uppercase to the subjects' intact right field on a computer for oral reading. Stimuli were presented horizontally first and then vertically. Oral reading of continuous text also was assessed. No evidence of neglect was found on vertical words, but performance on horizontal single word text and digit reading indicated a predominance of left-sided neglect errors. Both patients neglected left-sided information on about 70% of lines when reading a paragraph. Additional tasks were administered, manipulating the physical, lexical, or morphemic properties of stimuli. The two were impaired at detecting elementary stimulus features on the left side of the display, but were even more impaired at identifying conjoined features. It was concluded that when the deficit is not severe, sufficient information may be picked up and may interact with higher order lexical knowledge to partially offset the peripheral malfunction. However, for a severe attentional deficit, top-down knowledge is not engaged as insufficient information is processed on the left-hand side.

Brunn, Jennifer L., & Farah, Martha J. (1991). The relation between spatial attention and reading: Evidence from the neglect syndrome. *Cognitive Neuropsychology, 8*(1), 59-75.

Examines, in two experiments, the relation between the deficit of spatial attention in neglect and the relative sparing of word reading in neglect. In Experiment 1, eight right-hemisphere-damaged patients with left visual neglect were presented with 50 words and 50 nonwords, the letters of which were in different colors. Subjects were to read the letter strings and to name the colors. Subjects made fewer errors naming the initial letter of words than nonwords and also were more accurate in naming the color of the initial letter of words than nonwords. For both letter and color naming, performance was poorer on the first halves of the letter strings than on the second halves. Both tasks were more accurate in the first halves of words than in nonwords. In Experiment 2, again eight right-hemisphere-damaged patients with left visual neglect, five of whom had been in the first experiment, were tested. Ten word, pseudoword, and nonword letter strings of five, seven, and nine letters each were presented to subjects. Subjects were to report the letters and then to bisect the line on which the letter string appeared. Again reading words was more accurate than reading nonwords. Patients bisected lines more symmetrically when the lines were shown underneath words than nonwords. The line bisection data indicated a leftward shift in attention accompanying word reading. Performance on pseudowords was intermediate between words and nonwords for both the reading and line bisection tasks. Implications of the results are discussed.

Sieroff, Eric. (1990). Focusing on/in visual-verbal stimuli in patients with parietal lesions. *Cognitive Neuropsychology, 7*(5/6), 519-554.

Deals with visuospatial difficulties in reading after parietal lesions. The first section of the paper presents an experiment conducted to study extinction of visual-verbal stimuli after parietal lesions. Subjects included four patients with right parietal lesions and five patients with left parietal lesions. All were right-handed and all were tested at least one month after onset. Patients were presented with words and nonwords three or eight letters long on a video screen; stimuli were allocated randomly to one of three lists. The stimuli were presented in three conditions: unilateral presentation of letter string, bilateral presentation of pairs of letter strings, and bilateral centered presentation of letter strings. Subjects were to read the stimuli aloud by naming a word, a nonword, or constituent letters. While patients with right lesions showed relatively consistent left extinction with bilateral presentation of nonwords (centered or pairs), patients with left parietal lesions showed different results. They presented more extinction with pairs of short nonwords than with long centered nonwords. In addition, the side of extinction was not systematically on the side contralateral to the lesions. The second part of the paper is a case study of a patient with a left parietal lesion who showed extinction with pairs of short nonwords but not with centered nonwords. The author argues that the patient may show a specific deficit in focusing on one visual-verbal stimulus when it is presented with other visual-verbal stimuli. Hypotheses are presented concerning the different visuospatial processes occurring in reading.

Patterson, Karalyn, & Wilson, Barbara. (1990). A ROSE is a ROSE or a NOSE: A deficit in initial letter identification. *Cognitive Neuropsychology, 7*(5/6), 447-477.

Describes the letter and word identification performance of a patient with a posterior left-hemisphere lesion, a right homonymous hemianopia, and unimpaired performance on tests for visuospatial neglect. The patient was a right-handed male who was first studied at age 70. He showed a form of initial letter deficit in reading in which he would give either a correct response to a word like *rose* or give a word differing by the initial letter. The chances of this correctly identifying a word were significantly affected by lexical constraints on the initial letter, with a word like *rose* giving lower performance than words with a unique first letter (e.g., *-oap* can only be *soap*). In addition, he made errors in identifying single isolated letters and often misidentified the initial letter in random strings of letters. In contrast, he identified letters in the second position of words or strings with good accuracy. The patient was administered a number of reading tasks and stimulus types in an effort to characterize and understand his pattern of performance.

CARAMAZZA, ALFONSO, & HILLIS, ARGYE E. (1990, July). Spatial representation of words in the brain implied by studies of a unilateral neglect patient. *Nature, 346*, 267-269.

Presents evidence collected on a 77-year-old left-handed female with unilateral neglect due to a stroke involving a large area of the left parietal white matter and the left anterior basal ganglia, adjacent to the head of the caudate nucleus. The patient showed difficulties in processing the right side of objects and words; in reading and writing she made errors only on the right side of words. Such errors persisted even when it could be shown that she had processed the whole word, as indicated by her ability to name all the letters in the word. The patient was asked to read over 2,000 words and to spell over 1,600 words. Overall accuracy was 77% in reading and 24% in spelling. She read high frequency words with greater accuracy than long words. Errors were made only on the right half of a word, regardless of length. The same pattern of errors was produced in both reading and spelling, irrespective of the topographic arrangement of stimuli in reading (horizontal, vertical, or mirror-reversed words), or of the type of response in spelling (written, oral, or backward oral spelling). It is concluded that the pattern suggested that the order of graphemes in an orthographic representation is coded by reference to relative spatial positions in a word-centered coordinate system.

FRAZIER, LYN, & FRIEDERICI, ANGELA. (1991, January). On deriving the properties of agrammatic comprehension. *Brain and Language, 40*, 51-66.

Reviews the literature on grammatic comprehension and contends that it is a computational rather than a conceptual deficit. First reviewed is research showing variable behavior differing between patients with a computational deficit. That section is then followed by commonalities across computational deficits, and then by a third section on differences between temporal and memory-based computational deficits. The authors argue that structures involving longer inferential chains suffer greater degradation than structures involving shorter inferential chains and contend that many observed properties of agrammatic comprehension follow from this latter principle.

GRUEN, ANDREW K.; FRANKLE, BONNIE C.; & SCHWARTZ, ROBERTA. (1990, June). Word fluency generation skills of head-injured patients in an acute trauma center. *Journal of Communication Disorders, 23*, 163-170.

Studies the word fluency skills of acutely brain-injured patients specific to quantity, quality, and inferred strategies of word associate generation. Subjects were 218 acutely brain-injured patients ranging from 17 to 50 years of age. All had completed at least 12 years of formal education or had obtained a General Equivalency Diploma. Word fluency abilities were evaluated by the animal naming subtest of the Boston Diagnostic Aphasia examination and a variation of the word fluency subtest of the Neurosensory Center Comprehensive Examination for Aphasia. The animal naming subtest required subjects to name as many animals as possible in 60 seconds. For the word fluency subtest, subjects were to produce as many word associates as possible of the letters *S, T, P,* and *C*, with 60 seconds allotted to each letter. Numbers of responses and inferred strategy utilizations were examined and compared with norms established for nonbrain-injured individuals. It was found that head-injured patients used similar strategies but with significantly less efficiency. Same initial consonant-vowel syllable, same initial consonant-consonant blend strategies, and semantic association were used by all participants, regardless of severity of injury. Differences were found as a function of severity of cognitive disruption.

Doctor, Estelle A.; Sartori, Giuseppe; & Saling, Michael M. (1990, June). A letter-by-letter reader who could not read nonwords. *Cortex, 26*, 247-262.

Reports a case study conducted on a letter-by-letter reader whose performance on selected reading tasks showed a number of inconsistent results with respect to current functional models of the syndrome. The patient, a 42-year-old male, suffered a left internal carotid dissection. He was left with a right-sided hemiparesis and a right homonymous hemianopia. Hearing was within normal limits bilaterally, and there was no obvious hemianaesthesia. He was unable to write to dictation, but could copy letters and words accurately with the left hand. He had difficulty learning unrelated word sequences and forming picture-word associations. He could not analyze words into constituent sounds or blend individual sounds into words. In a series of eight tasks presented to him, it was found that the patient showed signs which were not in keeping with current interpretations of the syndrome of the letter-by-letter reader: (1) he read words better than nonwords, (2) concrete words were expressed more holistically and abstract words were processed more letter by letter, and (3) lexical decisions were made far more rapidly than words could be read aloud. It is argued that these signs are difficult to account for if reading is accomplished only through a nonlexical reversed spelling strategy. Alternative models assuming strategic control over the reading mechanism are presented.

Anderson, Steven W.; Damasio, Antionio R.; & Damasio, Hanna. (1990, June). Troubled letters but not numbers: Domain specific cognitive impairments following focal damage in frontal cortex. *Brain, 113*, 749-766.

Describes a case study of a 58-year-old female with a small lesion in the left frontal lobe which was excised with surgery. Following surgery, the patient complained of major impairments in reading and writing. The alexia and agraphia occurred in pure form, i.e., in the setting of otherwise normal cognitive and neurological function. The patient's visual perception, intellect, memory, oral spelling, and drawing were normal. Reading and writing impairment patterns paralleled one another. She was unable to read sentences, and reading single words and letters was markedly impaired. She could write no words, her letters were essentially unrecognizable, and her attempts at writing were distorted spatially. However, she could read all numbers and nonverbal symbols, and she also was able to write numbers and perform written calculations. It is posited that these dissociations provide evidence of the domain specificity of cognitive/neural representations.

Berndt, Rita Sloan; Mitchum, Charlotte C.; & Price, Thomas R. (1991, February). Short-term memory and sentence comprehension: An investigation of a patient with crossed aphasia. *Brain, 114*, 263-280.

Gives a case study of a 56-year-old female with a focal temporaoparietal lesion of the right hemisphere in an exploration of the relation between short-term memory impairment and sentence comprehension. The results of a series of tests administered, as well as characteristics of the patient's immediate memory for word lists, gave a pattern suggesting the occurrence of a mirror image crossed aphasia. However, there were differences between this patient and previously reported cases with short-term memory impairment. The authors contend that the differences, which may be related to an unusual pattern of neuroanatomical organization of cognitive functions, involved symptom dissociations with implications for models of normal language/memory interactions.

Waters, Gloria; Caplan, David; & Hildebrandt, Nancy. (1991). On the structure of verbal short-term memory and its functional role in sentence comprehension: Evidence from neuropsychology. *Cognitive Neuropsychology, 8*(2), 81-126.

Presents a case study of a 64-year-old right-handed female, a Ph.D. and former lecturer in literature and composition who had suffered a cerebral infarct of unknown etiology. She showed significant left hemisphere impairment with motor and sensory signs indicating cortical as well as subcortical involvement. The patient had a reduced span, no recency effect in free recall, and rapid forgetting in various tasks, thereby indicating that she had impaired short term verbal memory functions. She showed no effect of either phonological similarity or word length in recall of auditory or written word lists, but showed some recency effect under recall-from-end conditions and better performance on Brown-Peterson tasks in an unfilled rather than in a filled condition. She showed retained ability to extract phonology from print, including an ability to apply sublexical grapheme-phoneme correspondences, thereby suggesting that the rehearsal and transcoding functions associated with articulatory mechanisms are dissociable. She displayed good comprehension of a variety of syntactic structures with auditory, written, and speeded written presentations, suggesting that articulatory rehearsal is not essential for the assignment of syntactic structure and its utilization to establish aspects of propositional semantics. Her errors of particular items in propositional memory were consistent with the view that the role of articulatory rehearsal mechanisms in sentence comprehension involves maintenance of items in a semantic structure.

Coslett, H. Branch. (1991, May). Read but not write "idea": Evidence for a third reading mechanism. *Brain and Language, 40*, 425-443.

Presents data on a 30-year-old female with an infarction involving Wernicke's area who was unable to write, repeat, or comprehend words of low imageability, yet would read these and other words. However, she could not read nonwords. The pattern suggested that her reading was mediated by a lexical procedure rather than sublexical phonologic correspondences. The findings further indicated that her reading was not semantically mediated. The author therefore contends that the patient was reading by means of a third reading mechanism characterized by the activation of a lexical entry in the auditory input lexicon and the subsequent activation of the corresponding entry in the phonological output lexicon with semantic mediation. The data from the patient are felt to be best accommodated by models of reading incorporating three mechanisms.

Cohen, Laurent, & Dehaene, Stanislas. (1991). Neglect dyslexia for numbers? A case report. *Cognitive Neuropsychology, 8*(1), 39-58.

Reports a case study of a patient with a specific number reading deficit, but with fairly preserved number comprehension and calculation. The patient, a 58-year-old, right-handed male, had experienced progressively increasing memory loss and language difficulties. He became severely aphasic, although there was no evidence of sensory or motor impairment. He exhibited a spatial pattern similar to neglect dyslexia, making most of his reading errors and perseverations on the leftmost digit of any number. However, number syntax was preserved. Based on a detailed account of the deficit, the authors proposed a revised model of number reading. It is contended that the neglect syndrome is poorly defined and functionally nonhomogeneous.

Katz, Robert B. (1990, March). Cross-modality word matching in letter-by-letter readers. *Cortex, 26*, 65-76.

Tests letter-by-letter readers (patients with alexia without agraphia) with a cross-modality word matching test to determine if they rely on sequential letter-processing skill.

Two brain damaged male patients, one 66 years old and the other 70, served as subjects. Both had limited reading ability, but they could match a spoken word to its printed form. The patients were tested on three tasks that used letters as stimuli: a crosscase matching task in which they had to match pairs of letters, one of which was in lowercase and one in uppercase; a letter naming task in which all 44 letters were uppercase; and a cross-modality letter matching task in which subjects were shown four letters and asked to point to the one named by the examiner. Patients then were given a cross-modality word matching task in which they were to match a spoken word to its printed form. Additional testing of the ability to match printed with spoken words was completed using four types of stimuli: initial letter alike, semantically related, functors, and irregular. Both patients performed significantly above chance when matching a spoken word to one of a group of semantically related words, function words, or words beginning with the same letter. Performance was reduced on orthographically irregular words. It was concluded that manipulations taxing the ability of the subjects to process key letters (those distinguishing target words from foils) or scan for them resulted in a decline in word matching performance. Therefore, it was felt that letter-by-letter readers may rely on sequential letter processing to accomplish cross-modality word matching.

GLOSSER, GUILA, & FRIEDMAN, RHONDA B. (1990, September). The continuum of deep/phonological alexia. *Cortex, 26*, 343-359.

Follows two patients who manifested acutely all the signs of deep alexia following injury to the left hemisphere. Both patients, males ages 23 and 33, went on to recover reading abilities and eventually to show a pattern of deficits that closely approximated that of phonological alexia. Both evidenced symptoms of alexia within several months post onset. Over the course of recovery, both patients' reading changed. It was felt that the temporal change in the reading performance of the two individuals indicated a possible continuum between deep alexia and phonological alexia. The authors suggest that the two forms of alexia may be due to disruption in common neurolinguistic systems. Presented is a two-deficit psycholinguistic model that accounts for all of the symptoms in the two forms of alexia and describes how the model might account for the apparent clinical continuum between the two disorders.

MATTHEWS, CLAIR. (1991, February). Serial processing and the "phonetic route." Lessons learned in the functional reorganization of deep dyslexia. *Journal of Communication Disorders, 24*, 21-39.

Reports the case study of a patient with chronic agrammatic Broca's aphasia who presented symptoms of deep dyslexia. Patients with deep dyslexia appear to read by whole-word recognition, and it is felt that the nonlexical route (phonic reading) is not able to function. The case study reports a method developed to restructure the nonlexical route in this deep-dyslexic 37-year-old male with nonfluent speech. He was placed in therapy for his reading disorder following the notion of functional reorganization, an effort in which the patient must learn consciously to control behaviors that had formerly been unconscious or automatic but were now lost. The goal was to attempt to reestablish phoneme-grapheme association through the kinesthetic system and then to train the patient to sound out the words that he was unable to read otherwise. The patient's responses made it clear that the phonetic route encompasses at least two dissociable functions: grapheme-phoneme conversion and sequential analysis. The insights learned: the ability to convert grapheme to phoneme is an essential but not a sufficient condition for the nonlexical analysis of the printed word and it was more difficult to train the sequencing of moving left to right than the grapheme-phoneme conversion.

PARKER, D.M.; BESSON, J.A.O.; & MCFADYEN, M. (1990, December). Intermittent alexia. *Cortex, 26*, 657-660.

Describes a 17-year-old female who had repeated episodes of alexia in which the attacks were of sufficient duration to allow for formal assessments of behavioral functions. At age 8, the patient struck her head in a fall and lost consciousness. Earlier there had been three episodes of syncope. During her early teenage years, she had episodes of migraine where the onset was haziness and flickering in the right visual field along with feelings of clumsiness in the right hand. There were episodes averaging one to one-and-a-half a week when she was unable to read and would become spatially disoriented. During normal periods she read regularly and mildly irregularly spelled words at 96% accuracy, while highly irregular words were read with 67% acceptable pronunciation. During an alexic episode, she could not read a single word or letter although language comprehension and verbal expression were unimpaired. Reading of numbers, color vision, and color naming were normal. On some occasions, she could write to dictation, although with many errors, while on other occasions her writing to dictation was seriously disordered. Right-left confusion was marked. Blood flow scans collected under normal and alexic conditions indicated that the disturbance had a vascular origin. When medicated, attack frequency declined to one every three or four weeks.

DENNIS, MAUREEN, & BARNES, MARCIA A. (1990, October). Knowing the meaning, getting the point, bridging the gap, and carrying the message: Aspects of discourse following closed head injury in childhood and adolescence. *Brain and Language*, *39*, 428-446.

Attempts to describe the discourse ability in head-injured children and adolescents, to analyze the relation between discourse and intelligence, and to evaluate the contribution of other language memory skills to discourse test performance. Subjects were 33 children and adolescents, all of whom had sustained a head injury. The following measures were administered: the age-appropriate Wechsler scale; the Test of Language Competence-Expanded Edition, including four subtests and the total score; four subtests from the Spreen-Benton Aphasia Battery; and the Recognition Memory Test. The Full Scale IQ ranged from 68 to 145 with a mean of 97.58. Even though the subjects were well into the chronic stage of recovery and many of their clinical language skills had been restored, discourse problems were common. Almost 80% had difficulty with at least one of four discourse tests: knowing the alternate meanings of ambiguous words in context, getting the point of figurative or metaphoric expressions, bridging the inferential gaps between events in stereotyped social situations, and producing speech acts that express the apparent intentions of others. Resolutions of ambiguity were found to be correlated with word fluency and verbal domain knowledge but not with object naming. Understanding a metaphor was correlated with verbal domain knowledge but not with literal sentence comprehension or with the formation of analogies; making inferences was correlated with working memory capacity but not with social knowledge; and producing speech acts was not correlated with either sentence construction or with social knowledge.

CAPLAN, DAVID, & EVANS, KAREN L. (1990, August). The effects of syntactic structure on discourse comprehension in patients with parsing impairments. *Brain and Language*, *39*, 206-234.

Studies brain damaged patients with disorders of parsing in an investigation of whether such patients also have disturbances of discourse comprehension, and, if so, whether other discourse comprehension disturbance arises because of the syntactic comprehension impairment. Subjects were 16 aphasics and 16 normal subjects of similar age, education, and gender. Aphasics ranged in age from 36 to 83 years, while nonaphasics ranged in age from 33 to 71 years. The Syntactic Comprehension Test, consisting of 35 sentences with 5 examples of each of 7 sentence types, was administered. In addition, two narratives and two folktales were prepared in both a syntactically simple and a syntactically complex form. Following each story, the Story Comprehension Test was administered, consisting of a set of 18 true/

false probes designed to assess comprehension in each of three categories: event frame probes, problem frame probes, and verbatim probes. The syntactic comprehension task employed object manipulation of toys in such a way as to demonstrate the thematic roles of nouns in verbally presented sentences. Each subject received all four stories in the story comprehension task, either in the syntactically simple or the syntactically complex form. Neither aphasics nor nonaphasics experienced greater difficulty with the syntactically complex than with the syntactically simple stories, regardless of story type or question type. Groups had almost identical scores for simple versus complex narratives and for simple versus complex folktales. They responded to questions about the content of syntactically complex and syntactically simple discourses equally well for both types of discourse. Subjects indicated that they felt they were having greater difficulty with the syntactically complex stories. A relatively low positive coefficient of correlation was found between performance on the two tests. The results indicated that patients with syntactic comprehension difficulties have an associated disturbance in discourse comprehension. However, the related problem does not appear to be directly due to their inability to understand syntactically complex passages.

Temple, Christine M.; Jeeves, Malcolm A.; & Vilarroya, Oscar O. (1990, August). Reading in callosal agenesis. *Brain and Language, 39*, 235-253.

Evaluates the reading performance of two children with callosal agenesis, a syndrome in which there is a congenital absence of the corpus collosum which connects the two hemispheres of the brain. The two children had been shown previously to have impairments on rhyming tasks, although word reading levels were found to be age appropriate. Both children evidenced impaired development of the phonological reading route despite normal lexical skills. The pattern of their reading was comparable to developmental phonological dyslexia. It is posited that problems in explicit phonological processing could be causal in the failure to establish an efficient phonological reading route but is not sufficient to cause difficulty in word recognition itself. Further posited is that the corpus callosum may be necessary for the normal development of a phonological reading route.

VI-5 Other atypical learners

Williamson, Sherrie; Harpur, Timothy J.; & Hare, Robert D. (1991, May). Abnormal processing of affective words by psychopaths. *Psychophysiology, 28*, 260-273.

Tests the hypothesis that psychopathy is associated with abnormal processing of affective verbal material. Subjects were 16 male inmates in a Canadian prison who volunteered to participate. Subjects were given the 22-item Psychopathy Checklist (PCL), an instrument for the assessment of psychopathy in criminal populations. Inmates were defined as psychopaths or nonpsychopaths based on the PCL score. Stimuli consisted of 39 words and 39 nonwords, with the words rated as affectively positive, negative, and neutral. Brain electrical activity was recorded from electrodes. Subjects first were asked to determine whether the stimulus was a word while reaction time and event-related potentials (ERP) were recorded. Following the experiment, subjects rated each word on a seven-point rating scale from bad to good. The lexical decisions of nonpsychopaths were significantly faster and ERPs were significantly larger to affective words than to neutral words. Psychopaths failed to show reaction time facilitation or larger amplitude ERPs to affective words. It is suggested that psychopaths extract less information from affective words than do other individuals. Implications for understanding the behavior of psychopaths are discussed.

Forness, Steven R.; Cantwell, Dennis P.; Swanson, James M.; Hanna, Gregory L.; & Youpa, Daniel. (1991, May). Differential effects of stimulant medication on reading performance of boys with hyperactivity with and without conduct disorder. *Journal of Learning Disabilities, 24*, 304-310.

Addresses the question of methylphenidate effects on reading performance, with special attention to diagnostic category, level of dosage, and measures of classroom reading performance. Serving as subjects were 54 boys, ages 8 to 11, who ranged in IQ from 85 to 128. Based on screening with questionnaires and interviews, 27 boys were designated as hyperactive disordered (HD) and 27 as hyperactive aggressive (HA). Three levels of dosage were used with each child: high, intermediate, and low. A placebo also was prepared. A total of 21 capsules were administered for each of the four conditions, so that a three-times-a-day dosing schedule was followed for seven days. The order of the four conditions was randomized. A battery of tests was administered to each subject, including the following: WISC-R, PIAT, Woodcock Reading Mastery Test, and KeyMath Diagnostic Test. In addition, oral reading samples were obtained with the GORT and performance on reading comprehension was assessed by silent reading of passages on the Specific Skill Series. No significant differences were found for the HD group in either oral reading or comprehension. The HA group tended to improve performance over baseline on time and errors in oral reading and in number of correct responses to comprehension questions. Only the last measure reached significance.

DYKMAN, ROSCOE A., & ACKERMAN, PEGGY T. (1991, February). Attention deficit disorder and specific reading disability: Separate but often overlapping disorders. *Journal of Learning Disabilities, 24*, 96-103.

Studies a group of clinic-referred children with attention deficit disorder (ADD) on several dimensions (cognitive, emotional, behavioral, physiological). Included were 182 children, ages 7 to 11, with WISC-R scores of at least 85. ADD was a primary diagnosis for all. In addition, there were 52 control children, all meeting the criteria for subjects with ADD but none of whom had been referred for behavioral or academic problems. The WRAT-R was administered and teachers were asked to complete three questionnaires. Parents filled out two questionnaires. In addition, children were given two self-rating scales, a measure of impulsivity, the trail-making test for brain dysfunction, a 10-minute coding task, and a timed arithmetic test. EEG and other physiological recordings were made. Children were assigned to a low or high dose of methylphenidate. Three behavioral subgroups were identified through cluster analysis of teacher ratings: 40% had ADD with hyperactivity (ADDH), 30% had ADD with hyperactivity and aggressivity (ADDHA), and 31% had ADD only. Proportionally more girls were in the ADD only subgroup. Over half were poor readers, with 82 meeting criteria for specific reading disability. More boys than girls met the RD criteria. Boys in the ADD sample who did not meet criteria for RD had significantly higher IQs than did those who did, but subgroups with and without RD still differed on WRAT-R reading and spelling scores with IQ covaried out. Methylphenidate benefited all subgroups equally, whether RD or not, and whether administered in a low or high dose.

KUPIETZ, SAMUEL S. (1990, August). Sustained attention in normal and in reading-disabled youngsters with and without ADDH. *Journal of Abnormal Child Psychology, 18*, 357-372.

Compares three groups of children on correct detections and three types of commission errors as evidenced on the Continuous Performance Test (CPT). All subjects were between the ages of 7 and 12.11 and included 11 normal controls, 11 with developmental reading disorder (DRD), and 13 with a diagnosis of DRD plus attention deficit disorder combined with hyperactivity (ADDH). The CPT presented on a microcomputer a task consisting of 100 letters shown individually in different colors in the center of the monitor screen. The target to be detected was the two-color letter sequence, white S followed by a blue T, and the subject was to press a key as soon as the blue T appeared. Within each of seven blocks of 100 letters presented, there were 10 targets and 20 false targets. All three groups showed a decline in sustained attention over the task. When younger and older subgroups were compared, DRD children were found to make significantly more correct detections with increased age, but this was not the case in the DRD-ADDH children. The latter group also were differentiated by a type of commission error, previously associated with impulsive responding. DRD children were differentiated by a second type of commission error which possibly was associated with inattention or short term memory deficit which diminished with age.

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Adult Learning
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American Annals of the Deaf
American Educational Research Journal
American Journal of Community Psychology
American Journal of Education
American Journal of Orthopsychiatry
American Journal of Psychology
American Journal of Sociology
American Journal on Mental Retardation
American Quarterly
American Sociological Review
Applied Psycholinguistics
Archives of Neurology
Arithmetic Teacher
Arizona Reading Journal
Australia & New Zealand Journal of Developmental Disabilities
Australian Journal of Education
Australian Journal of Psychology
Australian Journal of Reading
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Brain & Cognition
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British Journal of Educational Studies
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British Journal of Sociology of Education
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Child Psychiatry and Human Development
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Cognition International Journal of Cognitive Science
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Computing Teacher
Contemporary Education
Contemporary Educational Psychology
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Curriculum Inquiry
Developmental Medicine and Child Neurology
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Early Childhood Research Quarterly
Education
Education and Society
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Education, USA
Educational and Psychological Measurement
Educational Gerontology: An International Quarterly
Educational Horizons
Educational Leadership
Educational Psychologist
Educational Psychology
Educational Research
Educational Research Quarterly
Educational Researcher
Educational Review
Educational Studies
Educational Technology
Educational Technology Research and Development
Elementary School Journal
ELT Journal
English Education

English for Specific Purposes
English in Australia
English in Education
English Journal
English Quarterly
ETS Developments
Exceptional Children
Florida Reading Quarterly
Foreign Language Annals
Forum
Forum for Reading
Gazette: International Journal for Mass Communications Studies
Georgia Journal of Reading
Gifted Child Quarterly
Harvard Educational Review
High School Journal
History of Education Quarterly
Human Communication Research
Human Development
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Idaho Reading Report
Illinois Reading Council Journal
Imagination, Cognition, & Personality
Indian Educational Review
Indiana Media Journal
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Instructional Science
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International Journal of Disability, Development, & Education
International Journal of Educational Research
International Library Review
International Research in Reading
International Review of Education
Interracial Books for Children
Intervention in School and Clinic
Iowa Reading Journal
Irish Journal of Education
Journal for Affective Reading Education
Journal of Abnormal Child Psychology
Journal of Advertising
Journal of Advertising Research
Journal of Aesthetic Education
Journal of American Optometric Association
Journal of Applied Behavior Analysis
Journal of Applied Behavioral Science
Journal of Applied Developmental Psychology
Journal of Child Psychology and Psychiatry
Journal of Classroom Interaction
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Journal of Research and Development in Education
Journal of Research in Childhood Education
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Journal of School Psychology
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Journal of Speech and Hearing Research
Journal of the Acoustical Society of America
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Library and Information Science Research

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Library Journal
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Mass Communications Review
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Measurement and Evaluation in Counseling and Development
Memory and Cognition
Merrill-Palmer Quarterly
Michigan Reading Journal
Minnesota Reading Association Highlights
Mississippi Reading Journal
Missouri Reader
Modern Language Journal
Monographs in Language and Reading Studies
Monographs of the Society for Research in Child Development
Montana Reading Journal
National Association for Secondary School Principals Bulletin
Neuropsychologia
New England Reading Association Journal
New Mexico Journal of Reading
New Zealand Journal of Educational Studies
News Research Report
Newspaper Research Journal
Ohio Reading Teacher
Oklahoma Reader, The
Optometry & Vision Science
Peabody Journal of Education
Perception and Psychophysics
Perceptual and Motor Skills
Perspectives
Perspectives in Education and Deafness
Phi Delta Kappan
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Poetics Today
Professional Psychology: Research and Practice
Programmed Learning and Educational Technology
Prospects: Quarterly Review of Education
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Psychological Reports
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Author Index, Annual Summary of Investigations Relating to Reading, July 1, 1990 to June 30, 1991

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